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CRISIS IN THE TAIWAN STRAIT

Edited by
James R. Lilley and
Chuck Downs

Yellow
Sea

East
China
Sea

Taiwan Strait

Taiwan

Hong Kong

Published in Cooperation with American Enterprise Institute

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*EDITED BY
JAMES R. LILLEY
AND
CHUCK DOWNS*

PUBLISHED IN COOPERATION WITH
THE AMERICAN ENTERPRISE INSTITUTE



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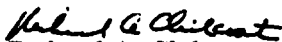
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FOREWORD

The People's Republic of China and Taiwan are divided not only by the Taiwan Strait but also by a gulf of political ideology and a tide of rising cultural divergence. Both Beijing and Taipei are playing a waiting game in which "time *may not* heal all wounds." Beijing prefers a peaceful unification between the mainland and the islands it claims as a province, even though strong elements in China believe that unification will probably be achieved only through the use of military threats or force. Taiwan, meanwhile, has experienced a division between those who desire eventual unification and those who advocate independence. The Strait has been relatively free of military conflict for a number of years, but the dynamics of China's willingness to use force and Taiwan's independence movement may be spiralling Beijing and Taipei toward greater military confrontation.

Events in 1996 shook the relative stability of the region. Taiwan's presidential elections involved major political parties which support the idea of independence. Defending China's claim to sovereignty over the islands, Beijing responded with missile tests meant to intimidate Taiwan and influence the election. The United States, mindful of its interests in both China and Taiwan, found it necessary to restore stability to the Strait by increasing its military presence. Although the crisis passed, the basic problem of unification and the potential for conflict remain.

In this context, a number of the world's most respected Far East/China/Taiwan scholars met, under the auspices of American Enterprise Institute, to analyze the ramifications of the crisis. They focused on the capabilities of the People's Liberation Army to conduct operations in and across the Strait. The authors also explored the policy issues connected with the ongoing social, economic, and political differences that divide China and Taiwan. Their insights, presented in this volume, will be of interest to both the student and practitioner of U.S. policy on China, Taiwan, and the region.



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***CRISIS IN THE
TAIWAN STRAIT***

James R. Lilley

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Introduction: Crisis in the Taiwan Strait

by James R. Lilley and Chuck Downs

It is possible that every history of the Clinton Administration's defense policy will mention the decision to send a second carrier battle group into the waters off Taiwan in March 1996. In the closing days of Taiwan's first presidential election, the USS Nimitz carrier battle group, on duty in the Mediterranean, was redirected through Southeast Asia toward Taiwan. As a military maneuver, the action was complex but not exceptionally difficult. Yet because of its significance to regional politics and diplomacy, and its long-range implications for the preservation of stability, this military action could be recorded as a watershed event in the American security policy in Asia.

The first popular election of a chief executive in China's long history was accompanied by a display of frustration from Beijing. China test-fired missiles into commercial shipping and transportation lanes near Taiwan's two busiest ports. Naturally, concerns over the accuracy of Chinese missiles and questions regarding China's larger intentions worried Taiwan's citizens. Nevertheless, they turned out for the balloting and cast the majority of their votes for the candidate, Lee Teng-hui, who had so displeased Beijing.

Taiwan's citizens were reminded of the uneasy standoff that continues to separate Taipei and Beijing, the heirs of the competing factions in the Chinese Civil War. The people of Taiwan are in some ways beneficiaries of the military stalemate reached in 1949; their distinct status has allowed them to develop democratic institutions that bear little resemblance to the form of government in Beijing. But they face perils as well. The People's Republic of China views Taiwan as sovereign Chinese territory that has resisted its authority for over 40 years. Beijing seeks reunification by peaceful means, but threatens the use of force if necessary. Its behavior during Taiwan's presidential election was only one way that the PRC challenged Taiwan's security.

Tensions on both sides of the Taiwan Strait rose as the Chinese intensified their efforts to influence Taiwan's voters and curb any slide toward independence. Thousands of miles away, in Washington, members of the United States Congress, propelled by demonstrating sympathy for and solidarity with Taiwan's emergent democracy, called upon the Clinton Administration to take additional steps to reassure Taiwan's citizenry and reassert American power in the western Pacific. The Administration accomplished this by deciding to send in the Nimitz carrier battle group. The first carrier on the scene, the USS Independence, and a number of its auxiliary vessels, had already been ordered to waters off Taiwan, to monitor the missile exercises. Permanently stationed in Japan, the Independence would routinely monitor any major regional military exercise. Sending a second carrier, however, sent a clear signal of American concern and resolve. When actions are clear signals, less needs to be said about intentions. The carrier battle group was redirected toward Taiwan, explained Administration spokesmen at the Pentagon and the White House, "In an effort to maintain peace and stability in the Taiwan Strait."

All too often, the causes, potential consequences, intense emotions, and estimated risks that are clear at the time of a crisis begin to fade when a situation returns to normal. Especially in situations like the crisis in the Taiwan Strait, where the risks to American interests were high, but the level of general knowledge among the American public was low, crises can pass with little public debate. In fact, the crises can emerge and recede without sustained public attention to the issues involved. There are therefore benefits to the immediate analysis and publication of the perceptions and insights of those who watch such situations carefully. There was disagreement among the participants as to the degree of blame to be placed on Taiwan's provocation, Beijing's calculated overreaction, or U. S. mismanagement and bungling. Suffice to say, all three sides had a lesson in reality and hopefully will adjust their respective positions, at least tactically.

For this reason, the American Enterprise Institute asked 11 highly esteemed analysts to prepare papers assessing critical aspects of the crisis in the Taiwan Strait. These experts, well-informed on the political issues involved and the military developments surrounding the tensions in the Strait, were joined by additional scholars from the Federal government,

the American intelligence community, academic institutions, and private research organizations, who met to discuss the issues in depth.

The chapters that resulted from this effort explain the historical roots of the crisis, discuss Chinese military objectives, assess the military balance between the mainland and Taiwan, identify potential military capabilities that could prove destabilizing and fearsome, analyze positions taken by other regional players, and make recommendations for policies that can avert future crises. This volume, we believe, provides the most comprehensive analysis of the crisis in the Strait that has been completed to date, and we expect it to be a valuable research tool for years to come.

We start with a summation of the political, social, and diplomatic developments that have contributed to the crisis in the Strait. Dr. June Dreyer reviews the sources of tension that continue to plague the Taipei-Beijing relationship, their historical bases, and their culmination in the current contest over international diplomatic recognition. "The present impasse may be protracted," she concludes, because, "Like skilled chess players, the two sides calculate each move with an eye toward keeping the opponent in check. The mainland seeks to counter any Taiwan move that would strengthen its credentials for sovereignty. Taiwan tries to block any mainland move that would reduce the island to the status of a province of the People's Republic of China."

China's objectives toward Taiwan are clearly shaped by historical factors, but they are restrained by military realities. A noted expert on China's military, Tai Ming Cheung, believes that the People's Liberation Army (PLA) "is presently ill-prepared to storm Taiwan." Nevertheless, because military commanders believe they may be called upon to launch an attack against Taiwan, "urgent efforts are being made to rectify glaring weaknesses." His chapter provides a perceptive look into overall PLA planning, organization, and capabilities.

Cheung concludes that the tools the PLA can exploit to flex its military might against Taiwan include missile firings, military exercises, military buildup, and limited sea and air blockades. "Establishing a credible deterrence to Taiwan's independence will be one of the PLA's top priorities for the foreseeable future," he suggests, and accordingly, "More resources will be devoted to building the capabilities to mount a successful invasion of Taiwan, which will also safeguard China's sovereignty and

stability." Cheung believes China's military chiefs hope a political solution can be found, but nevertheless "are preparing for the worst."

Dr. Richard Bitzinger's chapter analyzes Chinese military expenditures and force modernization priorities. He deals with the question of how much China is spending on its military, observing that the PRC's published figure of approximately US \$8.4 billion marks the eighth year of double-digit growth. But even this figure is generally viewed as falling far short of actual PRC military expenditures because it does not include military research and development, purchases of foreign military equipment, direct subsidies to China's military industries, PLA earnings from commercial activities, funding for the People's Armed Police, or funds earned by PLA-run farms. A more accurate estimate of Chinese military spending, Bitzinger concludes, is in the range of US\$28 billion to \$50 billion.

What China seeks to do with such a large investment in defense modernization is clearly of concern to Taiwan. "Improvements in China's military force structure could be used to seize Taiwan by force, or, at the very least, intimidate Taipei politically, economically, and psychologically into accepting reunification on Beijing's terms," Dr. Bitzinger suggests. To accomplish this, however, will require the greater exploitation of foreign technology.

On the critical question of China's potential benefit from foreign technology, Dr. Bitzinger sets out some interesting perspectives. China seeks to "indigenize" foreign technology. "The most important aspect of recent arms exports to China," he states, "may not be the sale of finished weapon systems but the injection of critical 'enabling' technologies into Chinese defense technology and industrial base." On the contrary, Taiwan relies on purchasing foreign weapons systems "off-the-shelf." Taiwan's approach has benefits in that it permits Taiwan to obtain highly sophisticated weapons quickly and strengthens ties with major Western powers, but it has drawbacks because Taiwan must depend on the willingness of other powers to provide the weapons it needs.

Dr. Bates Gill continues the discussion of foreign technology procurement efforts, examining those systems that are of particular concern in a potential cross-strait conflict. He concludes that China is making steady progress toward rationalizing its arms production and procurement policy. The process is a slow one, but Gill points out that China has the

potential to reach higher levels of operational capability quickly, primarily because of the assistance of Russian and Israeli suppliers. For the next 10 years, China's ability to undertake military action against Taiwan appears to Dr. Gill to be limited "to such activities as low-level military harassment and possibly stand-off missile attacks."

There are clearly problems in China's attempt to absorb new technologies. With regard to aircraft, the number of programs alone suggests to Bitzinger that a clear program for procurement has not yet been determined. On naval systems, Gill perceives that Chinese fleets will take many years to overcome basic weaknesses in several key areas: seaworthiness, defense systems, logistics and at-sea replenishment, large amphibious assault operations, and combined operations with other services. Yet China appears to enjoy a near-term advantage against Taiwan because its naval procurement program includes submarine capabilities and ballistic and cruise missiles.

What China might attempt to do with its foreign-sourced technological modernization is clearly very important. Harlan Jencks takes a far-reaching, admittedly hypothetical guess at what Chinese defense planners might dream of doing in the long-range. "By 2010 or so," he posits, "China's existing long-range nuclear forces not only may be more numerous, but their targeting may also have improved sufficiently that PLA missiles could target American carrier battle groups in the Western Pacific." The carrier diplomacy carried out in March 1996 would become more dangerous.

In addition to reviewing more traditional scenarios involving missile attacks, invasion, or assaults on Taiwan, Jencks raises the specter of a "cyber attack," which he describes as an electronic assault "on computers and communications systems using logic bombs, viruses or other computer-based attacks that deny, destroy, disrupt or manipulate defense and economic data." Taiwan's modern economy is reliant on high-tech record keeping and management systems. It is therefore vulnerable to "information warfare" which Jencks points out "could conceivably cause a true paradigm shift over the next decade, changing the nature of warfare as fundamentally as did air power or even gunpowder."

Richard Fisher's chapter begins with a comprehensive account of what transpired during the Chinese missile exercises themselves, and what that shows about China's emphasis on missile development. Fisher

refers to China's use of DF-15 short-range ballistic missiles to intimidate Taiwan in July 1995 and March 1996 as "the most intensive use of nuclear-capable missiles for intimidation by any of the nuclear powers." While political intimidation was the primary objective for China, certain points about the military balance in the Strait were made clearly. The missile exercises highlighted an area of the PLA's competence and glaring holes in Taiwan's defense. Fisher points out that Taiwan lacks missiles comparable to the DF-15, and also lacks a defense against them. Furthermore, the missile firings illustrated the vulnerabilities of vital air and sea links surrounding Taiwan.

Fisher examines the "implicit nuclear threat to Taiwan" that was conveyed by China's choice of missiles, and concludes a fundamental change in China's nuclear strategy was demonstrated. "Far from limiting itself to Mao's 'limited deterrent,'" he points out, "China envisions a flexible use of nuclear weapons for deterrence and warfighting along the entire spectrum of warfare." He argues that the use of missiles as a political tool, and the manner in which they were used before and during other military exercises, should end the argument that the purpose of China's strategic missile force is simply limited to a retaliatory "minimum deterrent."

Fisher also assesses the impact of the missile exercises, pointing out that they not only failed to coerce voters on Taiwan, but also led to enhancements in American security relationships throughout the region, and heightened regional attention to defenses against threatening Chinese behavior.

While most analysts admit that missiles are now China's strong suit, two other branches of the People's Liberation Army have a potential role in conflict in the Strait. Major shortcomings characterize both the People's Liberation Army Air Force (PLAAF) and the People's Liberation Army Navy (PLAN). Kenneth Allen notes that the PLAAF has become the third largest air force in the world, but PLAAF pilots do not train extensively for combat and the maintenance system is lacking.

Allen also notes China's emphasis on foreign acquisitions, but concludes, "the acquisition of Su-27s will not make an appreciable difference in the PLAAF's overall capabilities because of a lack of overall structural flexibility, maintenance, logistics, and leadership—all of which impact directly on the actual use of the Su-27s."

Retired Admiral Eric McVadon's chapter on the PLA Navy answers the question of whether the Chinese exercises in the Strait were an invasion rehearsal, as many people at the time thought. He concluded they were not. He asserts the PRC has not built an amphibious and logistic force to carry out an invasion of Taiwan, and judges that the exercises in the Strait did not employ the kinds of forces that would be necessary for such an invasion. "It is hard to imagine," he asserts, "much was learned about the real tasks and problems of assembling the force, providing massive logistic and communications support, and exercising coordination over far-flung diverse units."

McVadon analyzes the difficulties the PRC would face in any effort to invade Taiwan. He credits Taiwan's new democratization with having an impact in this area as well as in local governance. He points out, "Taiwan is now a cherished democratic homeland for more than 21 million people who have an armed force, even with its shortcomings and unmet requirements, that has been focused on a potential invasion from the mainland for decades." Taiwan's advanced naval assets are a strong deterrent. McVadon observes that seeing modern ships like Taiwan's Kwang Hwa II plying the Taiwan Strait is alarming and disturbing to the PLA Navy and to Beijing. China has considerable naval capabilities, particularly its antiship cruise missiles, but McVadon notes they are currently restricted by inadequate long-range targeting methods and vulnerability to attack. McVadon perceives that instead of staging a mock invasion, China decided that it was prudent to emphasize an area of unquestioned PLA strength—short-range ballistic missiles, which he believes were developed "with Taiwan in mind."

In his assessment of the potential for conflict in the Strait, McVadon's analysis, like China's, takes American capabilities into account. He points out that "PLA naval ships and aircraft are not able to conduct effective combat operations against the U. S. Navy." Washington's dispatch of the Independence and Nimitz groups in March 1996 was troubling to Beijing for more than political reasons. Beijing is fully aware that American carrier battle groups can "prevent the PLA from deploying from its naval bases, much less accomplishing missions." "It is highly likely," McVadon asserts, "that the PLA Navy did not know precisely where either or both carriers were operating but did know that their air and naval forces could not approach these battle groups without being

detected at distances well beyond the range of their combat systems. The U.S. Seventh fleet had the upper hand, he concludes, and could have made an international spectacle of PLA Navy inadequacies and ineptness.

American power is reassuring to Taiwan, but the American strategy of emphasizing the ambiguity of its response leaves room for worry. Dr. Alexander Chieh-cheng Huang's chapter offers insights into the problems that are posed for Taiwan's strategic planning. He recognizes Taiwan's strategic significance to China as "the key to china's maritime defense, its gateway to the high seas, and a chokepoint of Asia-Pacific sea lanes of communications." He describes the comparative strategic depth that the PRC maintains, compared to the relatively narrow field of responses Taiwan can pursue. China's overwhelming military advantage over Taiwan, Huang writes, enables Beijing great freedom of choice in the timing, magnitude, and location of military actions. Taiwan's self-restraint, on the other hand, based on its strategy of "defensive defense," rules out provocative or preemptive military actions against the mainland and its guiding strategic concept of "effective deterrence" focuses on building a "hard-to-be-swallowed" military to deter a possible Chinese invasion.

Huang emphasizes the critical nature of Taiwan's links to external powers. "How Taiwan maintains a sufficient edge both in hardware and in the quality of its officer corps is the key to Taiwan's deterrence strategy," he says. Yet Taiwan faces enormous difficulties in locating and purchasing weapons systems based on its own defense planning. Military operations plans, he asserts, are often altered because of differences between the desired systems and the systems Taiwan can obtain. China's pressure on arms producing countries plays a role in determining what weapons systems will be provided by those countries to Taiwan. Diplomatic isolation makes Taiwan uncertain about its foreign military procurement program and possible international reactions to an armed conflict across the Taiwan Strait.

To reduce the possibility of a crisis in the region resulting from conflict in the Taiwan Strait, Huang advises that Asia-Pacific countries must reconsider the current practice of excluding Taiwan from regional security dialogues. Regional powers, including China, he recommends, need to gradually recognize the reality of "one China, two governments"

and therefore create a new path for Beijing and Taipei to develop healthier relations.

According to Dr. Taeho Kim, there is a growing awareness in the Korean academic and defense community that Taiwan, as a mid-level military power with relatively transparent defense records, should participate in multilateral regional security dialogues because it can only contribute to regional stability. He recommends that in order to help deter and defuse cross-strait tensions, the United States should maintain regular and frequent high-level contacts with Beijing. His chapter assesses the role of other regional powers, particularly Korea and Japan, in efforts to resolve tensions in the Strait.

In the final chapter, Dr. Arthur Waldron sounds a call for a return to the carefully drafted, precisely worded American policies that sought to establish relations with the PRC while protecting Taiwan's security. He explains how the PRC and the United States have both drifted from the original meaning of the fundamental communiqués and the Taiwan Relations Act. The PRC, Waldron says, is using "salami tactics" to remove the bits it dislikes, slice by slice, while keeping the rest. He observes, for example, "that China would like to maintain the American commitment to Beijing—no official relations, no military forces protecting Taiwan—while discarding the Chinese undertaking—no threat to Taiwan." For its part, the United States is also muddling the original terms; many government and foreign policy experts believe that the basic problems were solved with "normalization" with the PRC. He identifies a "subterranean political struggle between those who saw Sino-American normalization as the beginning of the end for Taiwan, and those who drafted legislation and took diplomatic initiatives to ensure Taiwan's continued survival."

Waldron observes that Taiwan's democratization and the PRC's turn toward repression since 1989 drive home the necessity of assuring Taiwan's security with every new step to enhance relations with the PRC. "When the PRC is testing military rather than peaceful means to deal with Taiwan," he advises, "it makes no sense for us to reaffirm the August 1982 communiqué or give assurances that arms sales to Taiwan will be curtailed. Rather, we should tell Beijing authoritatively that military preparations in the Taiwan area will unravel the whole PRC-U.S. relationship and that the use of force will continue to elicit a strong American

response. That, after all, was the deal in the 1970s."

This book tries to come to grips with the various aspects of the situation in the Taiwan Strait. It is essentially the same effort American policy makers have been making since the time of the Chinese civil war. America has tried to extract itself from that civil war, while maintaining regional peace and security. We have reassured Taiwan of our support, and China of our interest in peace. We do not seek a split between Taipei and Beijing, yet seek to guarantee that reunification will be accomplished peacefully. China will not commit to reunification through peaceful means alone, and Taiwan will not accept terms it finds repugnant for reunification. Time may heal this simmering crisis; progress has clearly been made in the last generation; yet time is purchased by deterrence, and deterrence is accomplished by military balance at great cost and considerable risk. Resolve is strong on both sides of the Strait; and the depth of commitment to seemingly irreconcilable principles cannot be dismissed and will not readily be changed.

The events of March 1996 may be repeated, despite the fact the crisis probably redounded to the detriment of its perpetrators. Understanding the instability of the situation in the Strait, and the probability of a similar situation arising in the future, the authors and editors of this book have attempted to portray the critical factors that comprise the crisis. We can only hope the information we have provided informs the debate we believe is all too likely to be heard again.

June Teufel Dreyer

June Teufel Dreyer is Professor of Political Science at the University of Miami, Coral Gables, Florida. She received her Ph.D. from Harvard University, and formerly served as Senior Far East Specialist at the Library of Congress and Asia advisor to the Chief of Naval Operations. Her research work centers on ethnic minorities; the Chinese military; Asian-Pacific regional relations; and Taiwan politics. A frequent visitor to the Far East, Dr. Dreyer is the author of *China's Forty Millions: Minority Nationalities and National Integration in the People's Republic of China*, published by Harvard University Press, and *China's Political System: Modernization and Tradition*, published by Allyn & Bacon and now in its second edition. Her articles have appeared in numerous scholarly journals.

NOTE

As drafted by the author, the original version of this chapter used the term "Republic of China" rather than "Taiwan" in view of the author's strong conviction that the government authority referred to is a sovereign state. NDU Press has used the term "Taiwan" throughout to conform with U. S. Government policy guidelines.

A History of Cross-Strait Interchange

by June Teufel Dreyer

Introduction

The deaths, between 1975-76, of the two civil war antagonists—Chiang Kai-shek and Mao Zedong¹—created the opportunity for a peaceful resolution to the hostilities between Taiwan and the People's Republic of China (PRC). This opportunity was given added impetus when Deng Xiaoping, known for his pragmatism, emerged victorious from the post-Mao power struggle in the PRC. The militant ideology that had characterized the Chinese Communist Party (CCP) was replaced by what seemed to be a more humane variant of communism. Deng's paramount goal, the rapid modernization of the PRC, could be facilitated with help from Taiwan, which had already undergone a stunningly successful industrialization of its own.

The desire to forge closer ties with Taiwan was further enhanced by the PRC leadership's concern that Chiang Ching-kuo, who had succeeded his father, was apt to be the last mainland Chinese to be Taiwan's president. The Taiwanization of Taiwan would make unification of the island and the mainland much more difficult, if not impossible. Deng's government made overtures to Taiwan, as well as threatening to invade it. Taiwan made counter-overtures.

Shortly thereafter, trade and non-governmental ties across the Taiwan Strait began to proliferate. The founding of the Taipei-based Strait Exchange Foundation (SEF) and Beijing-based Association for Relations Across the Strait (ARATS) in 1991 created semi-official channels for the exchange of views. Two years later, the historic Koo-Wang talks were held in Singapore, resolving a number of non-political issues that had complicated cross-strait relationships. Given the rising cost of

hostilities to both sides as well as the advances made in solving several outstanding problems, observers were optimistic that further progress would be made.

These hopes received a setback in 1995 when the PRC reacted sharply to President Lee Teng-hui's efforts to create a higher international profile for Taiwan. A series of military exercises culminated in March 1996 in what appeared to be either a massive exercise at intimidating Taiwan or the opening stages of an actual invasion, just on the eve of Taiwan's presidential election. If invasion were the goal, the despatch of U.S. warships to the area may have convinced the PRC that this was not the correct moment to pursue unification by force.

At present, negotiations between the PRC and Taiwan have stalled. Each side would appear to be putting forth conditions that it knows the other will reject. Each side may be playing not only for the benefit of world public opinion, but for time. The mainland, knowing it is not currently capable of taking Taiwan by force, may be trying to build a paper trail indicating that it has made prolonged and sincere efforts to settle the unification issue peacefully. When it becomes confident that it is militarily capable of taking Taiwan and that external powers will not take counteractions with costs that are unacceptable to the PRC, it will invade.

Taiwan authorities, by contrast, realize that the longer Taiwan remains *de facto* independent, the more likely the world is to formally accept the reality that it is a sovereign state. In the interim, it is enhancing its credentials for sovereignty through such measures as upgrading the level of its representative offices in other countries, actively participating in international organizations, and placing its diplomats and other nationals in high-profile settings. Meanwhile, both sides are building up their respective military forces. At the same time, unofficial exchanges continue, as do economic relationships.

The present impasse may be protracted. Like skilled chess players, the two sides calculate each move with an eye toward keeping the opponent in check. The mainland seeks to counter any Taiwan move that would strengthen its credentials for sovereignty. Taiwan tries to block any mainland move that would reduce the island to the status of a province of the PRC. The mainland uses its large size and potentially huge market as leverage with the international community against

Taiwan. Taiwan uses its huge foreign exchange reserves, and its image as "the little country that could" achieve great things economically and politically, as leverage with the international community against the mainland. Each player also has domestic forces that influence policy. Jiang Zemin does not have the revolutionary credentials of Mao Zedong or Deng Xiaoping, nor does he have an institutional power base to sustain himself. He has a number of rivals for the honor of succeeding Deng. The effect of the power struggle on the mainland in policy toward Taiwan is, as yet, an unknown.

Meanwhile, Lee Teng-hui must try to satisfy the demands of the contending factions within Taiwan's democratic system. Constituents of the New Party say that they favor unification with the mainland—albeit not on any terms that the mainland is likely to agree to in the foreseeable future. The fractionated Democratic Progressive Party contains a small but vocal group which would like to declare independence now and face the consequences. Any perceived attempt by Lee to compromise Taiwan's independence would make this group both larger and more vocal. A variety of scenarios have been predicted, but all depend on a number of contingencies. However, unfavorable as the *status quo* may be to both sides, the odds favor its continuation.

Background

For three decades after the withdrawal of Chiang Kai-shek's Kuomintang (KMT) to Taiwan, the attitude of the CCP and KMT toward the other can be fairly characterized by one word: hostility. Each side considered the other illegitimate. Beijing's propaganda railed out against "the Chiang Kai-shek clique" which would have to be suppressed, while Taipei's media fulminated against "the communist bandits" who would have to be driven off. The mainland regularly threatened to "liberate Taiwan," and actually made two abortive attempts to do so. On the Taiwan side, holiday rallies were punctuated with slogans such as "next year, back to the mainland" and "counterattack the mainland." There is some evidence that, despite Chiang's public rhetoric and strong emotional commitment to recover the mainland, he quickly realized that it would be impossible to do so. In this analysis, bolstered by detailed information on changes in force struc-

ture and weapons acquisition, Taiwan's huge military establishment was actually intended for the defense of the island rather than a campaign to re-take the mainland.²

Nonetheless, Taiwan's air force carried out raids against mainland cities for a time, and naval skirmishes between the two sides occurred with some regularity. In 1954, Taiwan's island of Quemoy (Jinmen) came under heavy bombardment from PRC forces, though this turned out to be a diversionary tactic to draw attention away from the real target, the Dachen Islands off the coast of Zhejiang. By early 1955, the mainland's military had cut supply routes to the islands and Taiwan chose to withdraw. In mid-1958, the PRC employed the same bombardment and blockade tactics against Quemoy (Jinmen), hoping to force another Taiwanese withdrawal. In close parallel to the situation in the Taiwan Strait in early 1996, the arrival of U.S. aircraft carriers in the area deterred further action.³ Mainland China's plans were not helped when its ally, the Soviet Union, refused to support an invasion of Quemoy and the other main offshore island, Matsu (Mazu). The blockade was broken.

The PRC resorted to every-other-day bombardment of Quemoy. Taiwan worked at enhancing fortifications, including extensive underground tunneling for the safety of troops and equipment. In addition to the PRC's ritualized bombing, both sides participated in ritualized displays of propaganda. Balloons containing leaflets floated across the strait, and troops armed with megaphones shouted slogans to their opposite numbers.

Chiang Kai-shek died in April 1975, aged 87. His archenemy, Mao Zedong, passed away little more than a year later, at 82. Although the hostility between the PRC and Taiwan did not end immediately, the longstanding personal rivalry between the two men was no longer its driving force. By 1978, it was clear that of Mao's allegedly hand-picked successor, Hua Guofeng, had relinquished power to Deng Xiaoping, whose worldview was vastly different from that Mao. Deng had been criticized, even persecuted, by ideologues for his pragmatism. Now, with his enemies vanquished, Deng applied that pragmatism to his major goal: the rapid economic development of the PRC. There were lessons to be learned from Taiwan's experience in quickly modernizing under the aegis of a basically authoritarian⁴ government. While there

was no public praise of Taiwan's achievements, PRC leaders were familiar with the broad outlines of its development and had thought about what aspects of the Taiwan model might be useful to them.

There were other reasons for the PRC toning down its cross-strait rhetoric. One was that Deng was anxious to move the United States away from the quasi-normalization that had characterized relations between the two states since 1972 and into full diplomatic recognition. This would facilitate American investment in China's economy as well as open the channels for transfer of U.S. military technology which might be needed should relations between the PRC and the Soviet Union continue to deteriorate. A less confrontational attitude toward Taiwan could be expected to reassure the Americans.

Another reason was that PRC leaders saw their chances for unifying the mainland and Taiwan rapidly diminishing. The older generation of mainlanders who had fled to Taiwan, but still cherished hopes of returning, was dying off. After decades of rule by mainlanders, Taiwan was inexorably becoming Taiwanized. Taiwanese formed a majority of the membership of the KMT, and were becoming more strident in their demands to be dealt into the political equation. Chiang Kai-shek had been succeeded by his elder son, Chiang Ching-kuo, often called simply "CCK." The younger Chiang, already 65 at the time of his father's death, suffered from diabetes and various attendant complications. It was therefore unlikely that he would live as long as his father, and almost certain that he would be succeeded by a native Taiwanese. A Taiwanese leader, the PRC leaders reasoned, was apt to have little interest in unification. Indeed, the more militant among native Taiwanese had actually advocated that mainlanders be expelled from Taiwan.

Limited Rapprochement

On January 1, 1979, the PRC's minister of defense, Xu Xiangqian, announced the termination of the shelling of offshore islands held by Taiwan, "in order to give convenience to civilians and army men on Taiwan, Penghu, Jinmen, and Mazu islands who wish to visit their relatives and friends and make tours on the mainland and to facilitate shipping, production, and other activities in the Taiwan Strait." Xu linked

this decision to the normalization agreement with the United States, adding that the establishment of such relations “will contribute to peace and stability in Asia and the world as a whole and create favorable conditions for Taiwan’s return to the motherland and the reunification of the country.”⁵

The mainland’s National People’s Congress released a new year’s “Message to Compatriots on Taiwan” the same day. Beginning with the nostalgic observation that “when festival times come round, people think all the more of their loved ones,” it quickly segued into the “compelling responsibility” of every Chinese to contribute to the prosperity of the nation and pointed out that the world in general recognized only one China: the PRC. Its leaders vowed to adopt reasonable policies so that the people of Taiwan would not suffer losses. Trade would allow each side to make up what the other lacked and therefore benefit both. The message advocated establishing the “three links” (direct mail; trade; and air and shipping services) and “four exchanges” (cross-strait visits by relatives and tourists; academic groups; cultural groups; and sports representatives) as an initial step toward unification. The article concluded with a plea that all join hands and work together for this glorious goal.⁶ Absent any enthusiastic response from the other side of the strait, the mainland government followed up with stories of spring festival gatherings in which participants hoped that CCK would “treasure the country’s national interest above everything else, face reality, clear away all prejudices, and negotiate at an early date for the return of Taiwan to the motherland.”⁷ A few weeks later, the Chinese People’s Political Consultative Conference (CPPCC; the state-level counterpart organization of the party’s United Front Work Department) invited people of all walks of life in Taiwan to visit the mainland and said that arrangements would be made for people on the mainland to visit Taiwan so that all could exchange views on reunification.⁸

Apparently believing that the unification effort should employ sticks as well as carrots, mainland authorities also set down conditions under which they would invade the island:

- if the island were to declare its independence
- if Taiwan were to seek the protection of a foreign power other than its already-existing relationship with the United States⁹
- if there were to be chaos on the island.

The assumption seemed to be that CCK's death would be accompanied by a power struggle between mainlanders and Taiwanese, with chaos likely and a declaration of independence a distinct possibility.

These threats bolstered the position of mainland-born hardliners within the KMT and were therefore annoying to Taiwanese activists. The mainland communists intended to have this impact, preferring hardliners to Taiwanese. The PRC reasoned that Taiwan's citizens would be concerned enough about the possibility of an invasion that they would side with mainland-born Taiwan politicians to avoid inviting an attack. On the other hand, making threats was not the best way for the mainland to reassure "Taiwan compatriots" of its good intentions.

In September 1981, the mainland made another major *démarche*. One of the PRC's 10 marshals, Ye Jianying, speaking in his capacity as chair of the NPC's Standing Committee, issued a nine-point policy on the "return" of Taiwan on the basis of "one country, two systems." These may be summarized as:

1. talks between the CCP and KMT
2. commencement of the three links and four exchanges
3. Taiwan would enjoy a high degree of autonomy as a special administrative region of the PRC; it could retain its armed forces, and the Beijing government would not interfere with local affairs on Taiwan
4. Taiwan's current socio-economic system would remain unchanged, as would its way of life and its economic and cultural exchanges with foreign countries. Property rights, inheritance, and foreign investments would remain as before
5. Residents of Taiwan could participate in national political bodies and help to run the state
6. Beijing would subsidize Taiwan's economy in case of financial difficulty
7. Arrangements would be made for residents of Taiwan who wished to settle on the mainland; they would retain freedom of entry and exit
8. Business people from Taiwan would be welcome to engage in economic activities on the mainland; their legal rights, interests, and profits would be guaranteed
9. Residents of Taiwan were urged to suggest ways to facilitate the unification process.¹⁰

In addition to arousing Taiwan citizens' anxiety about what this meant for the future of the island, Ye's proposal generated some amusement about the benefits he held forth for Taiwan. Given the weakness of the PRC's economy *vis-a-vis* that of Taiwan, Ye's sixth point seemed hilarious. A cartoon published in one of the island's largest newspapers depicted a raggedly-dressed fellow astride a rickety bicycle leaning into the window of a shiny new sedan to ask its elegantly tailored driver "Psst, buddy! Want a loan?"

On a formal level, president Chiang Ching-kuo rejected Ye's demarche, noting that it was predicated on Taiwan relinquishing sovereignty. CCK also established the "three nos" policy: no contact, no negotiation, and no compromise to the CCP. He called instead for unification on the basis of Sun Yat-sen's Three Principles of the People (nationalism, democracy, and people's livelihood). As the founding father of post-imperial China, Sun is unique in being publicly revered on both sides of the strait. In a quiet signal to the mainland, the slogans "counterattack the mainland" and "next year, back to the mainland" disappeared.

Anxiety levels on Taiwan were raised again the next year, 1982, with the promulgation of a new constitution by the mainland. One of its provisions created a new administrative category, the special administrative region, explicitly said to have been designed to absorb Hong Kong, Macao, and Taiwan. Negotiations began with Great Britain on the return of Hong Kong. A further erosion of Taiwan's international position occurred only a few months later. On August 17, 1982, Washington and Beijing signed a communique in which the United States agreed that its arms sales to Taiwan would not "exceed either in qualitative or quantitative terms, the level of those supplied in recent years since the establishment of diplomatic relations between the two countries, and that they will be gradually reduced, leading to a final resolution of this issue over a period of time."¹¹ There was considerable dismay in Taipei, not least because the August 17 document appeared to contradict the Taiwan Relations Act that had been passed by the United States Congress in 1979. In this Act of Congress, the United States committed itself:

- to consider any effort to determine the future of Taiwan by other

than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States

- to provide Taiwan with arms of a defensive character; and
- to maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people on Taiwan.¹²

The status of the agreement was further muddled when, a month later, the U.S. State Department's legal advisor told a subcommittee of the Senate Judiciary Committee that the August 17 agreement was "a statement of policy . . . not a binding international agreement."¹³

The force of CCK's "three nos" was also muddled, in this case by an unknown number of citizens who found ways around it. In 1981, at the time Ye Jianying was issuing his nine point agenda, the mainland set up a "reception center" on Pingtan Island, not far from Fuzhou. It served as a conduit for fishermen, merchants, and those seeking to resume contact with relatives on the mainland. By 1984, the center's director claimed that 700 fishing boats and 5,000 people from Taiwan had used its facilities.¹⁴ Taiwan's authorities knew about the conduit and could have restricted access to it, but chose not to. Trade was also conducted through other areas, usually Hong Kong but sometimes Singapore or Japan. A Taiwan newspaper estimated that total indirect trade at US\$ 550 million in 1984, and predicted that it would exceed \$1 billion in 1985.¹⁵ In March 1986, the ritualistic exchange of propaganda between Fujian province and the offshore islands held by Taiwan ceased,¹⁶ apparently at the initiative of the mainland.

On November 2, 1987, CCK officially ended the ban on Taiwan residents visiting their relatives on the mainland. Though some interpreted the lifting of the ban as a sign of weakness, in actuality the opposite was the case. A high-ranking Taiwan authority had predicted several months before the ban was lifted that, after an initial show of emotion at being united with relatives, visitors from Taiwan would begin to notice the shabbiness of their surroundings and be grateful to the KMT for what it had accomplished. He further predicted that the nostalgic glow of meeting with long-lost kin would soon be tarnished after visitors from Taiwan began to be deluged by requests from rela-

tives near and distant for expensive gifts. Indeed, there were many instances of exactly this sort of behavior.

The 1986-87 period also saw major moves toward the democratization of Taiwan, accompanied by a quickening of its Taiwanization. Re-elected president in 1984, CCK must have known that he was unlikely to survive until the end of his term in 1990. His choice for vice-president was a Taiwanese, Lee Teng-hui. An agricultural economist educated in Japan and the United States, Lee was fluent in several languages and had been a popular mayor of Taipei (1978-81) and governor of Taiwan province (1981-84).

A ban on the formation of new political parties, that had been imposed at the time the communists were forging to victory on the mainland, was also lifted at this time. One major opposition party, the Democratic Progressive Party (DPP) emerged as the principal challenger to the KMT. The DPP's membership was almost wholly Taiwanese, *vis-a-vis* approximately 85 percent for the KMT. It was, however, divided into several factions, some of whom were stridently in favor of declaring independence and some of whom felt more comfortable with a continuation of the *status quo*.

In addition to contributing to the democratization of Taiwan, the existence of several political parties in Taiwan had the added benefit of reinforcing the logic of the KMT government's position that it could not hold party-to-party talks with the mainland, as PRC leaders had demanded. The KMT was only one of the many parties that would have to be included. Indeed, the DPP, at least, would not have easily acquiesced to its exclusion. Taiwan would negotiate on a state-to-state basis, with each side having equal status. Since this would have been tantamount to recognizing the sovereignty of Taiwan, which the PRC had always contended was no more than a breakaway province, Beijing had no choice but to reject this option.

CCK died in January 1988 and was succeeded by Lee, thus avoiding the chaos that would have provided the mainland an opportunity to take advantage of. However, the PRC tried to take advantage of the transition period. In early July, the mainland's state council issued "regulations for encouraging investment by Taiwan countrymen." Among other concessions, Taiwan investors were given preferential treatment in setting up technologically advanced enterprises; there was

an explicit guarantee that the state would not nationalize their property; and they were given the right to remit profits "out of the country."¹⁷

The new president confounded certain foreign analysts' prediction that he would be a Taiwanese puppet of a mainland clique, and moved quickly to put his own stamp on party and government. A week after the PRC's *démarche*, the KMT's 13th party congress substantially modified CCK's "three nos" policy by distinguishing between government contacts, which would continue to be prohibited, and private, people-to-people contacts, which were to be encouraged.¹⁸

Lee also announced another, far-reaching change in foreign policy. "Flexible diplomacy" would allow Taiwan to participate in international organizations of which the PRC was also a member.¹⁹ Taiwan would no longer automatically break diplomatic relations with countries which granted formal recognition to the PRC, as had been its standard practice in the past. Taiwan diplomats were to take a higher international profile, even when circumstances limited them to the sphere of informal activities. Much could be achieved, for example, through "vacation diplomacy:" unofficial talks on matters of considerable official significance that were conducted on the golf course or tennis courts. The PRC fulminated that this was an obvious plot to establish "two Chinas." It likewise rejected a 1989 Lee suggestion of "one country, two governments on a reciprocal basis" as being tantamount to "one China, one Taiwan" and therefore no better than the "two Chinas" policy it had always been opposed to.²⁰ Under pressure from Beijing, countries which recognized the PRC invariably terminated formal relations with Taiwan. But informal relations remained strong, and flexible diplomacy was quite successful in reminding the world that Taiwan existed as a separate, as well as politically and economically accomplished, entity.

Elected president in his own right in 1990, Lee Teng-hui's inaugural speech took a conciliatory position toward the PRC. Stating that he hoped that "a termination of the period of mobilization for the suppression of the communist rebellion can be declared, in accordance with the law, in the shortest period of time," Lee announced that Taiwan would be willing to establish channels of communication and completely open up academic, cultural, economic, scientific and other channels, on a basis of equality, preparatory to discussing unification

“when objective conditions are ripe.” He made this offer contingent on three conditions: the PRC must:

1. implement political democracy and a free economic system
2. renounce the use of military force in the Taiwan Strait
3. not interfere with Taiwan’s development of its foreign relations, on the basis of a one-China policy.²¹

Lee is unlikely to have entertained any hope that the PRC would agree to these conditions; never sympathetic to the sort of popular participatory democracy Lee had in mind, PRC leaders had become still more wary of the power of a mobilized citizenry since the mass demonstrations at Tiananmen Square and elsewhere in China in 1989. They would certainly not agree to renounce the use of force, being understandably unwilling to deprive themselves of what many of them must have believed was the only way to guarantee unification. As for the third condition, since Beijing’s leaders were convinced that the development of Taipei’s foreign relations was unequivocally aimed at establishing two Chinas, or one China and one Taiwan, they felt that interfering with the development of such relations was absolutely imperative. At a press conference two days later, Lee explained that it was not necessary for all three conditions to be met before relations with the mainland could be improved; issues could be dealt with one at a time. Quietly, he began a drawdown of the garrison forces on Quemoy and Matsu.²²

Lee pressed forward, creating institutions through which issues could be dealt with. In September 1990, a National Unification Council (NUC, *kuo-chia t’ung-i wei-yuan hui*) was established. There is symbolism in the name: whereas the mainland talks of re-unification, Taiwan talks about unification. Indeed, the island has never been under the administration of the PRC. The NUC is an advisory board charged with providing the president with ideas and research findings.²³ This was followed by the formation of the Mainland Affairs Council of the Executive Yuan (MAC, *hsing-wu yuan ta-lu wei-yuan hui*) in January 1991. The MAC is a formal administrative agency under the supervision of the premier. It is responsible for the overall planning, coordination, “partial implementation” and evaluation of Taiwan’s

policy toward the mainland. Its members include most of Taiwan's cabinet ministers and related commissioners or council chairs.²⁴

On February 8, the MAC approved the establishment of a quasi-private Strait Exchange Foundation (SEF, *hai-hsia chiao-t'ung chi-ch'in hui*) to conduct unofficial contacts and negotiations with the mainland. The SEF receives two-thirds of its funding from the government and one-third from private contributions. A later contract concluded between the MAC and the SEF specifically authorized the SEF to:

1. accept, ratify, and forward entry and exit documents from the two sides of the strait
2. verify and deliver documents issued on the mainland
3. deport fugitives on the two sides of the strait
4. arbitrate trade disputes
5. promote academic and cultural exchanges
6. provide consultation on general affairs
7. help protect the legal rights of Taiwan's citizens during their visits to the mainland
8. deal with other affairs commissioned by Taiwan's government.²⁵

The SEF is not authorized to deal with political issues; it provides a way to deal with technical and business issues between Taiwan and the PRC that Taiwan's government could not itself handle without violating its own policy of no official contact with the mainland authorities.

A few weeks later, on February 23, the NUC adopted a document entitled *Guidelines for National Unification*, which envisions a three-phase unification process:

- a short-term phase of exchanges and reciprocity during which the two sides should solve disputes through peaceful means and respect each other in the international community
- a medium-term phase of mutual trust and cooperation during which official communication channels should be established on an equal basis, direct postal, transport, and commercial links should be allowed, and both should work together to develop the southeast coastal area of the mainland and then gradually expand into other

areas. High-ranking officials should be encouraged to visit back and forth to create favorable conditions for consultation and unification

- a long-term phase of consultation and unification, during which a constitutional system would be drawn up in order to establish a democratic, free, equitable, and prosperous China.

This was expected to be a “long and arduous political endeavor,” with no specific timetable for each stage.²⁶

On May 1, as envisioned in Lee Teng-hui’s inauguration speech, the “Period of Mobilization for the Suppression of the Communist Rebellion” was ended. This signalled Taiwan’s acceptance of the reality of the communist government in Beijing. If Taiwan entertained any hopes that the PRC would reciprocate, these were not fulfilled. In June, in what is generally held to be the official mainland response to the *Guidelines*, *Xinhua* news agency quoted an unnamed “leading official” of the Taiwan Affairs Office of the central committee of the CCP as announcing that:

We stress the use of peaceful methods to reunify the country. However, we will not promise to abandon the military option . . . as Taiwan’s independence runs counter to the national interest and the historical trend, it will not succeed.

Xinhua noted that the leading official had been authorized to make three “suggestions”:

1. discussion on the three links and two-way exchanges of people
2. negotiations between the CCP and the KMT
3. leading members of the KMT’s central committee and personages authorized by them would be welcomed to the mainland; the CCP was ready to send a party delegation to Taiwan if invited by the KMT.²⁷

In other words, the Beijing government had reiterated the conditions it had been insisting on for the past decade.

At the same time, there was a spate of commentary in the mainland

media denouncing the Taiwan independence movement.²⁸ In fact, with elections looming, certain DPP candidates had strongly espoused separatist sentiments. The KMT was able to cleverly capitalize on these to win handily, after which the DPP toned down its pro-independence rhetoric.

Official PRC reaction greeted Lee Teng-hui's termination of the "Period of Mobilization for the Suppression of the Communist Rebellion" with scorn. A member of the mainland's Society for Research on Legal Issues Across the Taiwan Strait pointed out acidly that "the suppression of rebellion" was illegal from the outset, since it went against the will of the people. Moreover, he added, what sort of "room for international maneuvers" did the Taiwan authorities want? A country has only one complete sovereignty, and it can neither be divided nor shared. Therefore, he continued, it is an obvious violation of the principle of one China when the Taiwan authorities call their attempt to establish diplomatic relations with other countries and to occupy China's seat in international organizations "space for international activities."²⁹

Observers might have been justified in concluding that the mainland's stance on Taiwan had changed little since that time. Nonetheless, in December 1991, Beijing announced the formation of a counterpart association of the SEF, the Association for Relations Across the Strait (ARATS).³⁰ Taipei officials were extremely pleased. A cabinet minister who had been instrumental in creating the SEF expressed that pleasure, saying, "They're reacting to the agenda we've set. We intend to keep it that way."

At its inaugural meeting, an ARATS official announced that the organization would "mainly work on strengthening non-official relations between people on the two sides, joining forces to crack down on maritime smuggling and piracy, and cooperating on settling disputes between the two sides." ARATS would in addition provide consultation services on economic, sports, academic, and scientific and technological matters. However, the official also emphasized the necessity of establishing the three links, and the importance of bringing about reunification on the basis of the principle of one country, two systems.³¹ Almost unnoticed amid the mind-numbing verbiage was that an important advance had taken place: the creation of "informal" organizations

which would allow the two sides to circumvent the impasse that had been created between the mainland's insistence on party-to-party negotiations and the KMT's insistence on government-to-government negotiations.

The Koo-Wang Talks

In April 1993, after much discussion, ARATS and SEF met in a neutral setting—Singapore. In addition to arriving at agreement on the site for negotiations, a number of other highly symbolic issues relating to documents and statements emanating from the meeting had been dealt with:

- should the documents and statements be written horizontally from left to right as in the mainland, or in vertical columns from right to left, as in Taiwan?
- should they use classical Chinese characters, as on Taiwan, or simplified characters, as on the mainland?
- should they employ Western-style dates as on the mainland, or Taiwan-style dates, in which the Western year 1912 (being the first year of the republic³²) is Taiwan's year one, and 1993 is year 81?
- who should sign first: the SEF delegation head or the ARATS delegation head?

In the end, the negotiators agreed to produce two separate copies of everything, one written in Taiwan's style and signed first by the SEF delegation head, and one written in PRC style and signed first by the ARATS delegation head. In that the different forms of the documents could be seen as indicative of a separate status for Taiwan, Taiwan side could be said to have won a symbolic victory.

Each side had chosen its delegation leader with care. The mainland was represented by 78-year old Wang Daohan, a former Shanghai mayor who was believed to have close ties with the formal leader³³ of the PRC, Jiang Zemin, who was himself a former mayor of Shanghai. The Taiwan delegation was headed by C.F. Koo, a 76-year old Taiwan-born billionaire industrialist who was a member of the KMT's central committee as well as a confidant of Lee Teng-hui.

The nature of mainland internal disputes preceding the Koo-Wang talks can only be guessed at. In Taiwan's more open society, however, these disputes were starkly evident. Despite government assurances that the talks would deal with non-political issues only, the DPP feared that KMT negotiators would betray Taiwan behind closed doors and move toward unification. Accordingly, the DPP sent a delegation, including 12 of their elected legislators, to Singapore to proclaim their view that Taiwan is in effect an independent country and should be recognized as such. As a high-ranking mainland official, Tang Shubei, arrived at the meeting place, several DPP legislators shouted "Taiwan is Taiwan; Taiwan is not China" and "Oppose Unification" while unfurling a large banner that proclaimed similar sentiments. Singapore police confiscated the banner and dispersed the demonstrators.³⁴

Koo and Wang eventually signed four documents dealing with:

- cross-delivery of registered letters
- verification of official documents issued by the other side
- a schedule of contacts between the ARATS and the SEF
- a statement of topics they would like to discuss in the future, including crime, illegal immigrants, protection of intellectual property, fisheries disputes, judicial cooperation, and cross-strait exchanges.

The principal negotiating difficulties came in economic areas: Taiwan wanted formal protection for its investors in the mainland, and the PRC wanted direct trade between the two sides rather than having to route air and sea exchanges through Hong Kong or a third country. Given the disparity in the size of the two countries, Taiwan worried about being overwhelmed by the PRC as well as being infiltrated by its spies and possibly also by mainland saboteurs. Therefore, it felt that the enhanced security afforded by indirect ties outweighed the loss of efficiency that they caused. Despite these differences, a spokesperson for the Taiwan side described the talks as tough but generally cordial.³⁵

The ARATS and the SEF met as stipulated, helping to resolve problems as they arose. These problems included the infamous Qiandao Lake incident of March 31 1994, in which 24 tourists from Taiwan were robbed and murdered while on a pleasure cruise. Since

mainland authorities promptly cremated the bodies, a proper investigation could not be conducted. Three individuals were soon charged with the crime and executed the same day their guilty verdict was rendered.³⁶ Several other incidents involved the disposition of illegal immigrants from the PRC to Taiwan, and disputes among fisherfolk of both sides. Yet another thorny issue that was dealt with before it escalated into greater hostilities occurred in November 1994 when Taiwan's military accidentally fired artillery shells into a Fujian fishing village.³⁷

Meanwhile, the two sides continued to insist on their respective positions with regard to the mainland's "one country, two systems" *vis-a-vis* Taiwan's "one country, two equal political entities;" and the mainland's "three directs" *vis-a-vis* Taiwan's "three nos," as well as their respective positions on Taiwan's desire to buy arms and participate in international organizations. This was the gist of the mainland's *White Paper on Taiwan Unification*, issued on August 31, 1993,³⁸ and Taiwan's *White Paper on Cross-Strait Relations*, published on July 6, 1994.³⁹

Trade continued to grow rapidly. According to Taiwan's figures, indirect trade between Taiwan and the mainland exceeded U.S.\$ 22.5 billion in 1995, and Taiwan business people had invested \$5.6 billion on the mainland. These figures represent information voluntarily disclosed to Taiwan's government and are known to seriously understate actual amounts. Taiwan sources do not contest mainland claims that Taiwan businesses invested \$ 29.4 billion in the PRC.⁴⁰

The situation as of late January 1995 was relatively calm and seemed to portend a continuation of that state. On January 27, the regular meeting of the ARATS and the SEF concluded with failure to reach agreement on three issues:

- the repatriation of airline hijackers
- the return of illegal immigrants
- the settlement of fishing disputes,

However, both sides acknowledged that their differences involved wording rather than principle and expressed hope that resolution was near.⁴¹

Three days later, Jiang Zemin delivered a major speech advancing eight proposals for the development of relations between the two sides. These broke no new ground: adhere to the principle of one China;

oppose Taiwan's activities in expanding its international living space; jointly safeguard China's sovereignty and integrity; declare that "Chinese should not fight Chinese"; affirm the advantages of economic exchanges and cooperation between the two sides; use Chinese culture as an important basis for the peaceful unification of the motherland; exchange views with all people from all walks of life on Taiwan; welcome visits to the mainland by the Taiwan authorities.⁴²

Jiang's address contained a warning that the "increasingly rampant activities" of independence forces on Taiwan, together with "certain foreign forces" were not only impeding the reunification of China but also threatening peace and stability in the Asia-Pacific region. "Foreign forces" presumably referred to the greater willingness of countries like France and the United States to sell weapons to Taiwan, as well as to the many countries' allowing persons that Beijing deemed unfriendly to it, such as the Dalai Lama, to visit and make public appearances. In general, however, the speech was well-received in Taipei. In particular, Jiang's statement that Chinese should not fight Chinese appeared to be a conciliatory gesture.

On April 8, Lee Teng-hui replied with a six-point policy for Taiwan-mainland relations:

1. the unification of China should be pursued on the basis of the reality that each side is ruled by a separate government
2. bilateral exchanges concerning Chinese culture should be strengthened
3. trade and economic ties should be enhanced and developed into mutually beneficial and complementary relations
4. both sides should be assured of their ability to join international organizations on an equal footing, and leaders of both sides should meet in a natural setting
5. the principle of resolving all disputes by peaceful means should be adhered to: the mainland should reciprocate Taiwan's 1991 renunciation of force against the mainland
6. both sides should join to safeguard prosperity and promote prosperity in Hong Kong and Macao.⁴³

Although a DPP spokesperson criticized Lee for not being aggressive enough on the sovereignty issue, he conceded that contact with

Beijing should be slow and steady.⁴⁴ A Western analyst pointed out that, although Beijing and Taipei were talking through the media rather than directly to each other, there could be no doubt that there was a dialogue between Jiang and Lee. Perhaps, he conjectured, this would be the prelude to their meeting face-to-face.⁴⁵

Relations Deteriorate

This generally harmonious cross-strait atmosphere changed abruptly after Lee Teng-hui attended commencement ceremonies at his alma mater, Cornell University, in June 1995. What might have been a relatively low-key visit turned into a high-profile embarrassment for U.S. diplomacy. In full knowledge of how angry Congress had become when the State Department had not allowed Lee Teng-hui a transit stop in Hawaii the year before, the department refused to issue Lee a visa for the Cornell trip. Secretary of State Warren Christopher saw fit to give Beijing explicit assurances that it would not. An irate Congress then forced the issue. Lee received his visa; Beijing accused Christopher of deceit; and Lee's visit became a major media event. His well-publicized speech mentioned the [to the PRC] dread term "Republic of China" numerous times,⁴⁶ while mainland leaders counted each usage and fumed.

Also at this time, Taiwan launched its fifth Perry-class guided missile frigate, the *Tzu Yi*;⁴⁷ its "friendship fleet" composed of a supply ship and two destroyers arrived in Singapore to an enthusiastic welcome from that country's overseas Chinese community;⁴⁸ and Germany announced that it was removing Taiwan from its "high tension" list, which would ease Taiwan's ability to purchase German weapons and technology.⁴⁹ Taiwan has been trying to buy German submarines for more than a decade.⁵⁰

The mainland postponed the second round of Koo-Wang talks, which were to have taken place in Beijing in August. In July, it announced that a series of missile tests would be conducted approximately 85 miles north of Taiwan, warning air and sea traffic to avoid the area.⁵¹ A second round of missile tests occurred in August in the same area. An overlapping series of war games and joint force maneuvers that looked as if they might be dress-rehearsals for an attack on Taiwan

were carried out. They were accompanied by venomous attacks on Lee Teng-hui.⁵² There was speculation that, when Jiang Zemin's January 1995 proposal resulted in no concessions from Taiwan, hard-line factions within the Communist Party and the mainland military had forced him to take a stronger stand.

Even so, as late as October, a Western reporter who visited Quemoy found no sign of tension. Force levels were only 10 percent of their peak levels in the 1960s and 1970s, and 60-70 percent of the island's food was supplied from the mainland. When a military commander took down the flag that had flown above Quemoy's broadcast station, the PRC's counterpart flag disappeared the next day. Civilians told the reporter that the mainland Chinese "are not our enemy anymore"; and "nobody is interested in war anymore; they just want to make money."⁵³

This assessment appears to have been premature. The next month, tensions escalated sharply again when the PRC conducted maneuvers near Dongshan Island off Fujian province, just opposite Taiwan. If, as speculated, the exercises were meant to influence legislative elections, the results were inconclusive. The New Party, which favors unification under certain unlikely circumstances, made an unexpectedly strong showing, though garnering only 13 percent of the vote. At least some of that came from persons who later explained that they had voted for the New Party not because of its stand on unification, but rather because they were annoyed with both the KMT and the DPP. The latter received 46 percent of the popular vote, and the former, 33 percent.

At the end of January, mainland premier Li Peng praised Jiang Zemin's speech on the first anniversary of the date it had been made. A few weeks later, there began initial stages of what were to be the largest military exercises to date. They included the firing of missiles close to Taiwan's two largest ports: Keelung, on the island's north coast; and Kaohsiung, on its extreme south. Because the mainland's media were excoriating Lee Teng-hui's alleged independence-oriented activities, analysts again speculated that the mainland's activities were aimed at disrupting Taiwan's presidential election on March 23. Others felt that an actual invasion was imminent. Two U.S. carrier battle groups were dispatched to the area. The elections were held as scheduled,

with Lee receiving a resounding 54 percent of the vote against three challengers and claiming that because of this he had a popular mandate for the very policies that had angered Beijing. His outspoken DPP opponent received 21 percent of the vote. Some analysts thus suggested that the election therefore showed that 75 percent of the population opposed unification.

Taiwan was anxious to resume the cross-strait dialogue. Taiwan postponed a scheduled military drill that was to have taken place in the South China Sea. On the third anniversary of the original Koo-Wang talks, C.F. Koo proposed that they be resumed, declaring that "our side has never deviated from the 'one China' principle...after unification, of course China will become a single unit...until then, Taipei considers both sides equivalent parts of a single China, while Beijing equates that one China with the PRC."⁵⁴ In his inaugural speech, Lee Teng-hui offered to go to China "to meet with the top leadership of the Chinese communists for a direct exchange of views." However, he also said that on his journey of peace to the mainland he would take with him the "consensus and will" of Taiwan's 21.3 million people—which was decidedly *against* unification, though not necessarily *for* a declaration of independence—and pledged to promote "pragmatic diplomacy," meaning precisely the activities the PRC had been objecting to. The PRC rebuffed overtures to re-start high level talks, but has been willing to participate in lower-level exchanges.

These lower-level exchanges have been frequent. In mid-July, scholars from both sides met in Beijing to discuss cross-strait relations, at a meeting that had been delayed for 13 months due to Lee Teng-hui's visit to the United States.⁵⁵ In the same month, the mainland opened a new center to boost economic and technical exchanges across the Taiwan Strait, with senior leaders including Li Peng and Jiang Zemin sending congratulatory messages.⁵⁶ And a mainland delegation of securities brokerage investors spent more than a week in Taipei studying Taiwan's securities market and financial exchanges.⁵⁷

The Current Situation

Taiwan continues to seek opportunities for its leaders to make international visits, and is making efforts to see that it is included in region-

al and international organizations including the United Nations. However, at least in the near future, it will be cautious of doing so in a high-profile manner. The United States will continue to issue transit visas to Taiwan's leaders, while advising them to refrain from public activities. One such recent example was premier and vice-president Lien Chan's stopover in New York en route to the inauguration of the president of the Dominican Republic.⁵⁸ Taiwan's leaders are meeting with American officials: Taiwan's chief representative to Washington, Jason Hu, met with Assistant Secretary of State for East Asia and the Pacific Winston Lord shortly after Hu's recent appointment.⁵⁹ Others have met with Lord, as well as with Defense Department and CIA officials.⁶⁰ All of these meetings have received minimal publicity.

Taiwan's officials have continued to press for the re-institution of higher level dialogues between the two sides of the strait, but privately speculate that these are unlikely to resume until after the CCP holds its 15th Party Congress in the fall of 1997. By this time, Jiang Zemin's power position should have been clarified, for better or for worse. Meanwhile, each side continues to insist on its conditions. For the mainland, these are:

1. both the mainland and Taiwan must adhere to peaceful re-unification and observe the one-China policy
2. any movement toward independence must be opposed
3. foreign intervention in the internal affairs of China must be opposed
4. all exchanges that are conducive to reunification should be promoted.⁶¹

For Taiwan, they are:

1. there must be equality in bilateral relations
2. Beijing must foreswear the use of force
3. Beijing must drop its insistence on "one China; two systems"
4. the mainland must stop trying to block Taiwan from expanding its international relations.⁶²

The most likely area for compromise lies in none of these funda-

mental principles but in Taiwan formally ending its already-compromised "three nos" policy. At the end of July, the MAC announced that local government heads would be allowed to visit the mainland for cultural and educational purposes.⁶³ And in August, MAC head Chang King-yuh said that establishing the "three links" was simply a question of time and terms.⁶⁴

Conclusions

The hostilities of previous years notwithstanding, the PRC and Taiwan have made considerable progress in managing relations across the Taiwan Strait. Trade between them has soared, creating a relationship of at least partially mutual dependence. Institutions have been created to address outstanding problems. While these institutions are not empowered to deal with the fundamental issues dividing the two sides they, nonetheless, have made important contributions with regard to such issues as illegal immigration, fishing disputes, and the murder of citizens of one side by citizens of the other. These might otherwise have escalated into higher-level confrontations.

With regard to the future, there are too many unforeseeable contingencies to allow prediction with any certainty. It may be that the two sides have already reached agreement on most of the matters that they are able to. A way out of more fundamental issues such as the "one China" versus "divided sovereignty" impasse, for example, will be much harder. One cannot rule out the possibility of one side or the other making a concession such as Gorbachev did in 1986, but the odds are against it. As leaders on both sides of the strait are aware, Gorbachev came to no good end, and the Soviet empire crumbled.

Moreover, both sides are constrained by domestic factors. Jiang Zemin's rivals would use any PRC concessions as a weapon against him. Given the PRC's many pressing domestic problems, it is more likely that a weak leader will seek to gain popularity by taking a tough stand against the PRC's "breakaway province" than make concessions to it. Another concern for PRC leaders is that any concessions made to Taiwan could have the effect of further emboldening already extant separatist sentiments within the mainland. The recent crackdown against "splittists" in Tibet, Xinjiang, and Inner Mongolia does not

bode well for a softer line toward Taiwan.

Taiwan's democratic system makes it difficult for Lee Teng-hui or any other elected leader to compromise with the mainland on fundamental issues like sovereignty. Taiwan's small territory and, relative to the PRC, small population, mean that the country would lose a great deal by allowing itself to be swallowed up by the larger and far less prosperous mainland. Should the mainland become truly democratic, Taiwan's citizenry might become more sympathetic to unification. But the democratization of the mainland appears to be a long way off. As for unification through force, the U.S. response in backing Taiwan in the Taiwan Strait crisis of March 1996 reduces the likelihood that, absent drastic changes in U.S. political attitudes, the PRC will risk an armed invasion of the island.

Meanwhile, the status quo will likely prevail. A classic study of international conflict done by the renowned political scientist, Quincy Wright, concludes that most international conflicts are resolved by becoming obsolete. Even though the formal positions of the two sides to a conflict are incompatible, each will learn to live with the situation over a period of time. The involved governments quietly reduce commitments to their respective objectives to the point where no overt military actions are deemed worth the costs. Slow acceptance of the *status quo* rather than formal agreements or settlements are, according to Wright, the norm.⁶⁵ This is probably good news for the large majority of ROC citizens who have consistently told opinion polls that the *status quo* is their preference.

Postscript

Much has happened in recent months. Nonetheless, the basic cross-strait equation remains stable. Although President Lee Teng-hui has remained in Taiwan, explaining that many items of domestic business hold priority over international diplomacy, other high-ranking public servants have travelled extensively in foreign countries in both official and non-official capacities. There has been no noticeable diminution in the country's efforts to consolidate its international persona. Beijing has thus far declined to resume the SEF-ARAT talks. However, there have been frequent informal contacts which serve

similar purposes. Consensus has been reached on something approaching direct shipping, and the two sides have pledged cooperation to combat drug smuggling involving their nationals. After a slow start in early 1996, due to the PRC's military exercises, cross-strait trade posted a modest gain over 1995.

On the other hand, Beijing has redoubled its efforts to isolate Taipei diplomatically. In the closing days of 1996, the PRC persuaded South Africa, the last Taiwan ally of any size, to break relations with Taiwan and formally recognize the mainland. In January 1997, Beijing vetoed a UN Security Council resolution to send a peacekeeping mission to Guatemala because a Taiwan diplomat had attended armistice signing ceremonies in the Guatemalan capital. It reversed its position only after the Guatemalan government agreed to withdraw its support for Taiwan's bid to join the United Nations.

In essence, Beijing has alternated strident statements and aggressive behavior with conciliatory gestures. A January 1997 agreement between Taiwan's two leading political parties to abolish Taiwan province and strengthen the power of the presidency—accompanied by statements that the mainland and Taiwan are equal political entities and should be treated as such—might have been expected to call forth hostile rhetoric. Beijing's response was, however, surprisingly mild. It is possible that mainland leaders prefer a relatively peaceful international environment so as to smooth the absorption of Hong Kong. That accomplished, they may be able to concentrate efforts on dealing with Taiwan.

Notes

1. Modified Wade-Giles transliteration will be used for all Republic of China names and terms; *pinyin* transliteration will be used for those of the mainland. In cases where a non-Wade Giles, non-*pinyin* term has passed into common usage (Chiang Kai-shek, Quemoy, Matsu, Keelung), the common term will be used.
2. So argues Steve Tsang in his contribution to his edited volume, *In the Shadow of China: Political Developments in Taiwan Since 1949* (London: Hurst and Company, 1993), ch. 2.
3. David G. Muller Jr.'s *China As a Maritime Power* (Boulder, Colorado: Westview Press, 1983), pp. 20-43, examines these events in detail.
4. The basic foundations of Taiwan's economic miracle were laid under the authoritarian rule of Chiang Kai-shek's KMT; political democratization followed economic development.
5. (no author), "Shelling of Jinmen and Other Islands Stopped," *Beijing Review* (Beijing), January 5, 1979, p. 4.
6. National People's Congress Standing Committee, "Message To Compatriots in Taiwan," *ibid*.
7. (no author), "Longings for Kinsfolk," *Beijing Review*, February 9, 1979, p. 4.
8. (no author), "Another Call to Taiwan Authorities," *Beijing Review*, March 9, 1979, p. 3.
9. As previously mentioned, relations between the PRC and the USSR were poor in the late 1970s and early 1980s. While the USSR was consistent in its "one China" policy, it had occasionally sailed a warship through the Taiwan Strait or despatched a TASS correspondent who was widely believed to be a high-ranking KGB agent to Taiwan. The point was not lost on Beijing. In another case, just before the signing of the August 17 1992 communiqué between the United States and the PRC, 18 cardiologists from Taiwan journeyed to Moscow, ostensibly to attend a seminar on heart disease research—the first group from Taiwan to visit the USSR since 1949. The Hong Kong press interpreted the visit as Taiwan sending a signal to the United States that if it abandoned Taiwan, Taipei would look elsewhere for friends. See David Ceh, "Taiwan Doctors Group Attends Moscow Seminar," *South China Morning Post* (Hong Kong), June 21, 1982, p. 10.
10. (no author), "Chairman Ye Jianying's Elaborations on Policy Concerning Return of Taiwan To Motherland and Peaceful Reunification," *Xinhua News*

- Agency* (Beijing), September 30, 1981, reprinted in *Beijing Review*, October 5, 1981, pp. 10-11.
11. (no author), "Chinese Foreign Ministry Spokesman's Statement On China-U.S. Joint Communiqué," *Beijing Review*, August 23, 1982, pp. 15-16.
12. Public Law 96-9, 96th Congress, April 10, 1979, "Taiwan Relations Act," Section two. Washington, D.C., 1979, Government Printing Office.
13. (no author), "Statement on Taiwan Arms Not Binding, U.S. Contends," quoting State Department Legal Advisor Davis Robinson in response to a question from Senator John East, chair of the Senate Judiciary Committee's Subcommittee on the Separation of Powers. *Miami Herald*, September 28, 1982, p. A12.
14. Takashi Oka, "Secret Trips Across Formosa Strait Defy Barrier Between Taiwan and China," *Christian Science Monitor* (Boston), March 7, 1984, pp. 7-8.
15. (no author), "Indirect Trade With Mainland Soars in 1984," *China Post* (Taipei), April 12, 1985, p. 12.
16. (no author), "PLA Discontinues Taiwan Propaganda Campaign," *Xinhua*, March 21, 1986, in United States National Technical Information Service, *Foreign Broadcast Information Service: China* (hereafter, *FBIS-CHI*), March 21, 1986, p. K/4.
17. *Xinhua*, July 6, 1988, in *FBIS-CHI*, July 7, 1988, pp. 34-35.
18. *Central News Agency* (hereafter, CNA) Taipei), July 12, 1988, in *FBIS-CHI*, July 12, 1988, p. 82.
19. (no author), "Premier Urges 'Flexible Diplomacy'," CNA, July 16, 1988, in *FBIS-CHI*, July 18, 1988, p. 71.
20. (no author), "Beijing Says the Idea of One Country, Two Governments Is Not Acceptable," *Ming Pao* (Hong Kong), April 13, 1989, p. 2, in *FBIS-CHI*, April 13, 1989, p. 59.
21. The full text of Lee's speech was released by CNA, May 20, 1990, in *FBIS-CHI*, May 21, 1990. pp. 61-63.
22. Patrick Tyler, "For Taiwan's Frontier Islands, the War is Over," *New York Times*, October 4, 1995, p. 4.
23. Government Information Office, Republic of China, *The Republic of China Yearbook*, 1993, p. 147.
24. *Ibid*, pp. 147-148.
25. Hungdah Chiu, "The Koo-Wang Talks and Intra-Chinese Relations," paper presented to the annual meeting of the American Association for Chinese Studies, University of South Carolina, Columbia, South Carolina, October 15-

- 17, 1993, p. 6. Professor Chiu, a professor at the University of Maryland Law School and leading authority on cross-strait relations, attended the talks in his capacity as ROC Minister of State and member of the NUC. See also Chiu's "Koo-Wang Talks and the Prospect of Building Constructive and Stable Relations Across the Taiwan Straits," School of Law, University of Maryland Reprint Series in Contemporary Asian Studies, no. 119 (no. 6, 1993), *passim*.
26. *Republic of China Yearbook 1993*, pp. 147-148; Chiu, *op. cit.*, pp. 4-5.
27. *Xinhua*, June 7, 1991, in *FBIS-CHI*, June 20, 1991, p. 79.
28. Beijing Radio to Taiwan, June 6, 1991, in *FBIS-CHI*, June 20, 1991, pp. 79-80.
29. Yu Shutong, "Comments On the So-Called Termination of the Period of Mobilization and Suppressing the Communist Rebellion," *Xinhua*, June 3, 1991, in *FBIS-CHI*, June 20, 1991, pp. 80-81.
30. (no author), "Association Established To Promote Contacts," *Xinhua*, December 11, 1991, in *FBIS-CHI*, December 12, 1991, p. 66.
31. (no author), "Tang Shubei Views Exchanges," *Xinhua*, December 16, 1991, in *FBIS-CHI*, December 17, 1991, pp. 62-63.
32. Because the Ch'ing/Qing dynasty had been overthrown in 1911, 1912 was designated the first year of the new republic.
33. As opposed to the PRC's "paramount leader," Deng Xiaoping, who had chosen Jiang for the formal position.
34. Nicholas Kristof, "China and Taiwan Hold First Talks," *New York Times*, April 29, 1993, p. A6.
35. Nicholas Kristof, "Starting To Build Their First Bridge, China and Taiwan Sign Four Pacts," *New York Times*, April 30, 1993, p. A7; see also Chiu, *op. cit.*
36. Mao Lei and Zhang Ya "The Ins and Outs of the Qiandao Lake Incident," *Xinhua*, June 19, 1994, in *FBIS-CHI*, June 27, 1994, pp. 86-88.
37. Patrick Tyler, "Taiwan Apologizes After Troops Fire Artillery Shells Into China," *New York Times*, November 16, 1994, p. A6.
38. The full text was published by *Xinhua*, August 31, 1993, in *FBIS-CHI*, September 1, 1993, pp. 43-50.
39. Full text in *Chung-kuo shih-pao* (Taipei), July 6, 1994, in *FBIS-CHI*, July 6, 1994, via internet.
40. Government Information Office, Republic of China, "Let Reason and Pragmatism Prevail," August 6, 1996, via internet.
41. (no author), "Talks Snagged By Minor Defects," *Beijing Review*, February 13-19, 1995, p. 6.

42. *Xinhua*, January 31, 1995, in *FBIS-CHI*, February 2, 1995, pp. 46-47.
43. Christie Su, "Lee Maps Six-Point Policy For Taiwan-Mainland Relations," *Free China Journal* (Taipei), April 14, 1995, p.1.
44. Chen Fang-ming, quoted by Julian Baum, "Talking Back To Back: Taipei Responds Tentatively to Beijing," *Far Eastern Economic Review*, April 20, 1995, p. 26.
45. Baum, *op. cit.*
46. For an account of the visit, see Susan Yu, "Lee Back From U.S., Says Visit Helped World Recognize ROC," *Free China Journal*, June 16, 1995, p. 1. The full text of Lee's speech is in *ibid.*, pp. 7-8.
47. Sofia Wu, "Minister Attends Launch of Fifth Missile Frigate," CNA July 13, 1995, via internet.
48. K.L. Yang and Debbie Kuo, "Friendship Fleet Visits Singapore," CNA, June 9, 1995, via internet.
49. Lillian Lin and Y.C. Tsai, "Taiwan Removed From List," CNA, June 3, 1995, via internet.
50. Despite Taiwan's removal from the high-tension list, no submarines have been sold due to Germany's desire to avoid Beijing's anger. With the bankruptcy of the nation's largest shipbuilder, Vulkan, and cutbacks in welfare benefits, the issue of whether to sell weapons to Taiwan or not is controversial within Germany.
51. Seth Faison, "Taiwan Reports Nearby Firing of Four Test Missiles By China," *New York Times*, July 24, 1995, p. A2.
52. Patrick Tyler, "China Said To Seek To Rein In Taiwan With War Games," *New York Times*, August 19, 1995, pp. 1;5.
53. Patrick Tyler, "For Taiwan's Frontier Islands, the War Is Over," *New York Times*, October 4, 1995, p. 3.
54. Christie Su, "Taipei Acts To Reset Strait Talks," *Free China Journal*, May 3, 1996, p. 1.
55. Xu Ying, "Taiwan's Ties With Mainland Discussed," *China Daily* (Beijing), July 17, 1996, p.2.
56. Chang Lung and Sofia Wu, "Beijing Opens New Center To Boost Cross-Strait Cooperation," CNA, July 18, 1996, via internet.
57. Sofia Wu, "Mainland Securities Brokers To Visit Taiwan," CNA, July 19, 1996, via internet.
58. (no author), "Taiwanese Official Leaves For Stop in U.S.," *New York Times*, August 13, 1996, p. A3.

59. Bill Wang, "Lord Meets With Jason Hu," CNA, July 18, 1996, via internet.
60. Benjamin Yeh, "Chang, Lord Meet on Taipei-Beijing Impasse, CNA, July 19, 1996, via internet.
61. Fang Hsiao-yi, "Cross-Strait Relations: Key and Opportunity," *Wen Wei Pao* (Hong Kong), July 19, 1996, p. 4, in *FBIS-CHI*, July 24, 1996, pp. 81-82.
62. Flor Wang and Huang Kwang-chun, "Shi Sees No Major Change In Cross-Strait Ties," CNA, August 4, 1996, via internet.
63. Flor Wang, "Local Government Heads Allowed To Visit Mainland China," CNA, July 29, 1996, via internet.
64. Maubo Chang, "Official: Direct Links With Mainland China Are A Question Of Time," CNA, August 6, 1996, via internet.
65. Quincy Wright, *A Study Of War* (Chicago: University of Chicago Press, 1942), pp. 1256-57.

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Chinese Military Preparations Against Taiwan Over the Next 10 Years

by Tai Ming Cheung

The modernization of China's sprawling but backward defense establishment has been taking place at a glacial pace ever since the country's economic reforms began at the end of the 1970s. However, the pace of upgrading is accelerating because of mounting concerns among policymakers in Beijing that Taipei is seeking independence. Beijing considers this the most serious challenge to China's national security since the end of the Cold War. Taiwanese President Lee Teng-hui's efforts at raising the island's international profile and the establishment of a fully-fledged democratic process is fueling the rise of Taiwanese nationalistic sentiments. China regards these developments as intended to bring about a permanent political division and has warned Lee to cease his "separatist" activities or face dire consequences.

China believes that thwarting Taiwan's crusade for greater autonomy depends on having a credible military deterrent, including a capability to successfully invade the island. But the People's Liberation Army (PLA) is presently ill-prepared to storm Taiwan and urgent efforts are being made to rectify glaring weaknesses. Military strategies are being updated to focus on fighting high-technology wars. Combat training is increasing, mobile rapid reaction forces are being established, and more funds are available for the acquisition of new weapons systems. But because of limited finances, low technological standards, and other systemic constraints this modernization process will be slow and time-consuming. The worry for military chiefs is that they may be ordered into action before they are ready.

The PLA's efforts to prepare for potential hostilities against Taiwan over the next decade are guided by the following issues:

- The military's changing assessment of China-Taiwan relations and its influence over policymaking on Taiwan.

- Priorities and goals of the military's modernization drive, especially as set out in the Ninth Five Year Plan.
- The use of military pressure as part of a comprehensive strategy to contain Taiwan's efforts to increase its international profile.
- PLA contingencies for conflict against Taiwan and other foreign powers, especially the United States.
- Adapting China's new military strategy of fighting limited, high-technology wars towards military operations against Taiwan.
- The command and force structure of PLA units confronting Taiwan, especially the role of the Nanjing Military Region (MR).
- The development of the PLA's amphibious and sea-lift capabilities to prepare for a possible invasion of Taiwan.

The Military's Changing Assessments of China-Taiwan Relations

Policymaking towards Taiwan during the 1980s and early 1990s was primarily in the hands of Deng Xiaoping and Yang Shangkun. As these two revolutionary veterans also headed the military, there was little need for PLA chiefs to be involved in the policy process. Under Deng, Beijing took a pragmatic and long-term approach in its dealings with Taiwan, focusing on economic and cultural exchanges with the hope that this would pave the way for eventual reunification.

This situation changed following the 14th Communist Party Congress in late 1992. Yang, who was secretary-general of the Central Military Commission and head of the party's policy-setting Taiwan Affairs Leading Small Group (TALSG), was retired after losing a power struggle. Deng's involvement in policymaking decreased sharply shortly afterwards because of his failing health. The Taiwan portfolio was left open and Jiang Zemin quickly stepped in and took over as head of the TALSG. Military chiefs also moved to fill the void and they began to make their voices heard.

The new leadership began exploring different initiatives towards Taiwan resulting in a far-reaching debate among policymakers over the future direction of cross-strait relations began. Competing institutions represented in the TALSG put forward new proposals in response to

the changing dynamics in China-Taiwan relations, especially in the following areas:

- *Deteriorating Sino-U.S. relations:* Ties between China and the United States began to worsen in the late 1980s as the fading of the Cold War made China feel a less vital strategic partner to the United States. Sino-U.S. relations plummeted after the 1989 Tiananmen Square crackdown and as these relations worsened, Washington began to improve links with Taipei. A major improvement in Taipei-Washington relations occurred in 1992 when President George Bush sold 150 F-16 fighter-planes to Taiwan. Beijing regarded the sale as a breach of a 1982 Sino-U.S. diplomatic communique in which Washington has pledged to gradually reduce arms sales to Taipei.
- *Sweeping political and social change on Taiwan:* Under Lee Teng-hui, Taiwan has forged an increasingly separate identity from the mainland that is based on its new democratic system. New generations of native Taiwanese have taken over the reins of power from Nationalist mainlanders who fled to the island after the Communists' victory in 1949. There is little enthusiasm among these younger Taiwanese-born leaders for reunification with China.
- *Taiwan's rising international status:* Taiwan launched an aggressive campaign to expand its foreign relations a few years ago. Using its abundant financial resources, Taiwan offered generous economic assistance to international organizations and governments in Africa, South America and other parts of the world in exchange for diplomatic recognition. Lee has used the guise of overseas vacations to make informal state visits. In addition, pro-Taiwan sentiment and anti-China feelings has been growing in major Western countries, especially in influential political institutions such as the Japanese Diet and the U.S. Congress.

Moderates on the TALSG and the State Council's Taiwan Affairs Office, which oversees the daily management of China's policy toward Taiwan, believed Beijing needed to respond to these developments by offering concessions to get Taipei's agreement to a new framework on cross-strait relations. But hardliners, especially in the military, believed that Lee was plotting to create a separate state and they argued for a tough response to deter him.

The basis for the military's uncompromising views is believed to

have come from a comprehensive re-examination of cross-strait relations conducted by policy planners and intelligence analysts in the first half of 1994.¹ Their findings were alarming:

- Lee Teng-hui was committed to seeking the creation of a separate Taiwanese state.
- The domination of Taiwan's ruling Kuomintang Party by pro-reunification mainlanders was quickly coming to an end, and the influence of Taiwan-born politicians who were not in favor of reunion with China was showing signs of strong growth. Additionally, the staunchly independence-minded Democratic Progressive Party (DPP) was also becoming a powerful political force.
- Taipei could make major breakthroughs in its aggressive campaign for greater international recognition in the coming years.
- The situation across the Taiwan Strait was likely to become increasingly volatile with Taiwan's first-ever presidential election in March 1996 and Hong Kong's return to Chinese sovereignty in July 1997.

After lengthy deliberation, the leadership decided to adopt a conciliatory approach. China would show greater flexibility on the issue of reunification if Lee were to accept that Taiwan was a part of China and stop his diplomatic maneuverings. At the same time, the Chinese leadership ordered the PLA to quietly begin to upgrade its preparations for military action against Taiwan should the "carrot" strategy fail. Combat training for select units was stepped up and the PLA was allowed to resume major war games in areas of Fujian Province close to offshore Taiwanese-held islands.

Jiang unveiled this softer line in January 1995 in an eight-point proposal to Taiwan. "On the premise that there is only one China, we are prepared to talk with the Taiwanese authorities about any matter," he said.² Jiang added that "Chinese should not fight fellow Chinese," and repeated an offer to officially end the state of hostilities which still existed between the two sides as a first step in a comprehensive agree-

ment towards reunification. Lee responded with a counter-proposal several months later which Beijing regarded as a rejection of Jiang's offer. Lee said Beijing must renounce its threat to use force against the island before any negotiations could begin, a demand which China rejected.

Washington's decision in May 1995 to allow Lee to make a private visit to Cornell University triggered an angry reaction in Beijing, especially from the military and conservative hardliners. Military chiefs pointed out that Lee's visit provided conclusive evidence that their assessments of the trends in cross-strait relations were accurate. They argued that the conciliatory approach had failed and the only way to deal with Lee was to use intimidation through provocative military exercises and a savage propaganda assault, especially in the run-up to crucial legislative elections on the island at the end of 1995 and the presidential election a few months later.

Military strategists had already begun advocating the incorporation of provocative displays of military force into the PLA's new strategy of "*Local War Under High Technology Conditions*" several months earlier. At a military symposium on the initial stages of the new local war strategy in November 1994, some policy planners and analysts argued that China should display its military might during a crisis, believing this could deter opponents and might even avert a war.³

The military chiefs and hardliners persuaded their more moderate counterparts to act firmly against Lee and the go-ahead was given for the PLA to conduct missile tests near Taiwan a few weeks after Lee's U.S. visit. These missile tests were followed up by more missile firings and war games in August and even larger military exercises on Pingtan Island in November before Taiwan's parliamentary elections. At the same time, the Chinese media attacked Lee, condemning him as a traitor of the Chinese people. Beijing also suspended all semi-official contacts. Beijing stepped up its saber-rattling in the run-up to the Taiwanese presidential election in March 1996 with even larger-scale air, naval and ground live-fire wargames and missile firings within 50 miles of Taiwan's two main seaports of Keelung and Kaoshiung.

Although military tensions have eased since the March 1996 exercises, the PLA's view of cross-strait relations remain gloomy. Many military policymakers believe the wargames successfully displayed China's deter-

mination to prevent Taiwan from becoming independent. While the exercises appeared to have strengthened support for Lee among voters during the election, they did deter many voters from backing the DPP's candidate who campaigned on a platform of independence for Taiwan.

While tensions eased significantly after the election, official attitudes between Beijing and Taipei remain frosty. PLA units which took part in the exercises have returned to their barracks and Beijing has adopted a wait-and-see approach towards Lee. While China's leaders remain deeply suspicious of Lee's motivations, they have kept open the door to the resumption of official talks on improving cross-strait ties in the unlikely event that Lee gives up his efforts to bolster Taiwan's international profile.

The Ninth Five Year Plan: Military Modernization Priorities and Taiwan

The military's version of the Ninth Five Year Plan (9th FYP), beginning in 1996, sets out the priorities, goals and resource allocations for the PLA's force development program to the end of this decade. While the plan is concerned with all aspects of the PLA's modernization process, the Taiwan issue dominated much of the thinking of policymakers when they drew it up in 1995. The following broad outline of defense priorities in the 9th FYP was given by Premier Li Peng at the annual National People's Congress in March 1996:⁴

- Accelerate the modernization of national defense and increase defense capabilities.
- Rely on fewer but better troops.
- Enhance research in defense-related science and technology.
- Rely on indigenous resources in the development of military equipment.
- Give priority to producing arms and equipment for military operations under high-technology conditions and the development of new types of weapons and equipment.
- Establish a mobilization system for the civilian economy, especially for industrial enterprises.

The plan's primary goal is to create a slimmer, more mobile and better armed force supported by an advanced defense-industrial base. Key measures are believed to include the following:

- *A reduction of 500,000 personnel:* After more than three years of deliberation, military chiefs have agreed to a cutback of almost 20% of the PLA's manpower from 3 million to 2.5 million troops. This is expected to take three-to-four years with the initial focus being on a reduction of command and support units. Several group armies in north and northeast China are likely to be deactivated and upwards of a dozen army divisions will be transferred to the para-military People's Armed Police.⁵
- *Large-scale retirement of obsolete frontline weapons systems:* Large numbers of outdated fighter aircraft, warships, tanks and other arms will be withdrawn from operational service, resulting in large savings in maintenance costs which can be reallocated for acquisitions of more modern weapons systems.⁶ Most of the PLA's arsenal, especially its air assets, dates back to the 1950s and 1960s and would be hopelessly out-gunned in a modern war.
- *Priority acquisition of new generations of domestically developed fighter aircraft, warships and missiles:* More funds are being allocated for the acquisition of new locally-produced equipment. At the top of the PLA's shopping list are F-8-2M⁷ and F-10 fighters, Luh-class destroyers, Jiangwei-class frigates, Song-class submarines and M-series tactical and longer-range missiles.
- *Limited acquisition of foreign weapons systems:* While the PLA will rely on domestic weapon purchases to meet most of its requirements, it is also buying substantial amounts of advanced foreign arms. A deal signed with Russia in late 1995 for the transfer of assembly/manufacturing facilities to produce around 200 Su-27 fighter planes over the next decade is the centerpiece of the PLA's foreign acquisitions. The PLA navy signed a deal to buy two Russian Sovremennyy-class destroyers at the end of 1996 and negotiations are taking place for 50 Su-30MK ground-attack combat aircraft.⁸
- *Increased resources for defense science and technology research:* In an effort

to narrow the yawning technological gap between the PLA and other major military powers, more funds are being ploughed into defense science and technology research and development. Particular emphasis is being paid to command, control, communications and intelligence (C³I) systems. Expenditures for civilian science research and development, for example, is being increased three-fold during the 9th FYP from less than one per cent of GNP to three per cent.⁹

- *Expansion of rapid reaction forces:* The PLA is raising the number, quality and mobility of its rapid reaction and category-A units. There are presently 10-15 rapid reaction divisions, mostly light infantry units which are ready for immediate deployment, and perhaps 30-40 category-A divisions, which include more heavily-armed units ready to go into combat at short notice. There are also calls for the creation of special operations forces to conduct reconnaissance and sabotage missions behind enemy lines.¹⁰

- *Development of a wartime logistics and mobilization system:* To be able to support future high-intensity and fluid military campaigns, the PLA is overhauling its logistics support and transportation systems. Special attention has been given to technical support and new equipment and technology departments have been established at the military region level and below.¹¹ More attention will also be paid to defense mobilization in the construction of infrastructure and transportation facilities.

While most of these programs are intended to boost the PLA's overall fighting capabilities, the Taiwan issue has given added impetus and a clearer focus to military planners. All of these measures will enhance the PLA's preparedness for the possibility of military action against Taiwan, although some of these programs, especially those related to the acquisition of new generations of weapons systems, are unlikely to show early results.

Units in the Nanjing, Jinan and Guangzhou MRs, which are in the frontline against Taiwan, are likely to receive special treatment in the modernization plan. They will have priority access to new weapons systems and receive more funds for training and upgrading their war-fighting capabilities. In addition, greater urgency will be placed on the development of wartime logistics and mobilization systems in these regions.

Military Pressure and China's Comprehensive Strategy of Containing Taiwan

The PLA's tough actions toward Taiwan are part of a broader Beijing strategy to contain the island's perceived quest for independence. While the military menacingly wields its "stick" against Taiwan with training exercises, missile firings and the upgrading of military forces along the Taiwan Strait, the civilian leadership is offering "carrots" to entice Taiwan to entering into negotiations over reunification. These contrasting approaches also reflect policy differences between civilian moderates and more hawkish military chiefs.

Nonetheless, there is a basic consensus within the leadership over how to deal with Taiwan. Besides strengthening military capabilities, the other major strands of this strategy include the following measures:

- *Keeping Lee on the defensive:* Beijing will continue to maintain strong pressure on Lee to keep him on the defensive. It could engage in periodic and preemptive saber-rattling to dissuade Lee from making trips overseas. But, while hardline Chinese leaders remain wary of Lee, Jiang and other moderate policymakers would be willing to talk with him or his envoys to find a lasting solution.
- *Containing Taiwan internationally:* The Chinese government is taking a more aggressive approach diplomatically, increasing pressure on the United States, Japan, the UN and other international organizations and countries not to strengthen their ties with Taipei.
- *Strengthening economic integration across the Taiwan Strait:* Beijing is keen to expand cross-strait economic relations in the hope that increased trade and investment flows will eventually lead to closer political ties. Beijing is especially anxious to open direct transportation, telecommunications and postal links with the island.

PLA Contingencies for Conflict Against Taiwan

Ever since the PLA's gloomy prognosis of cross-strait relations in 1994, military planners have been hurriedly drawing up wide-ranging contingency measures to deal with Taiwan and the possible intervention of "foreign forces". As a result, when Lee Teng-hui made his visit to the United States in June 1995, the military chiefs were ready with

possible courses of retaliatory action against Taiwan which were quickly approved by the civilian leadership. The PLA's riposte was provocative missile tests and military exercises.

Successive PLA wargames in the Taiwan Strait have been progressively larger in size, sophistication and intimidation against Taiwan. This suggests that the PLA is engaged in an escalating series of military actions. Hong Kong's *Wen Wei Po*, a Beijing-funded newspaper with close ties to the Chinese military, quoted an "authoritative person" that "in the future, conducting military exercises on a still greater scale or adopting other military actions to strike at Taiwan independence plots and at foreign forces vainly attempting to obstruct China's reunification will not be ruled out."¹²

The Chinese authorities have made a clear distinction, however, between provocative military demonstrations and the actual use of force. Beijing has stated that it would only consider using force if Taiwan were to declare formal independence or if foreign powers were to bolster Taiwan's independence from China, such as allowing Lee, or other senior Taiwanese leaders, to make official visits to major countries such as the United States and Japan.¹³ Moves by Taiwan or outside powers which could invite more Chinese displays of force might include the following:

- *Taiwan makes a concerted bid for UN membership:* Taipei has been aggressively campaigning to gain UN membership since the early 1990s, but Beijing has thus far successfully blocked these attempts. Although Taipei appears to have put its UN membership bid on the back burner in recent months, any renewed effort could lead to Chinese military muscle-flexing in the Taiwan Strait.
- *Lee Teng-hui resumes his travels abroad:* If Lee were to successfully get an invitation to informally visit the United States, Japan or other major countries with which Taiwan has no official ties, Beijing would be furious and likely launch another round of military exercises or missile firings near Taiwan.
- *Major powers sell more arms to Taiwan:* Taipei is aggressively seeking to buy more weapons from abroad, including anti-missile defense systems and submarines, to shore up its defenses. Beijing would react angrily to any sales to Taipei, especially if they were major

weapons systems such as fighter planes or submarines and came from the United States, France, other Western European countries or Russia.

- *Taiwan amends its name to the "Republic of China on Taiwan"*: Analysts in Beijing believe that Lee may change Taiwan's official name to the "Republic of China on Taiwan" in the near-future. Although the name change would not constitute a formal declaration of independence, it would symbolize that Taiwan is a geographical entity distinct from the rest of China. A decision by the Taiwanese authorities to end elections to the country's provincial assembly in December 1996 was interpreted by some pro-Chinese observers as a "specific step" towards "achieving Taiwan independence at an early date."¹⁴
- *Taiwan holds key elections*: China is concerned that democracy in Taiwan may eventually lead to pro-independence parties such as the DPP gaining power. China will launch military exercises to deter Taiwanese voters from backing the DPP, even though this will increase support for Lee Teng-hui. Parliamentary and presidential elections are scheduled for the end of 1998 and early 1999.

The PLA can flex its military might in a number of ways:

- *Missile firings*: The use of missiles are relatively inexpensive and are highly effective weapons of intimidation. The three rounds of missile firings by the PLA's Second Artillery off Taiwan's coast between August 1995 and March 1996 caused considerable panic in Taiwan, especially impacting the island's stock market.
- *Military exercises*: PLA wargames near Taiwan have become increasingly frequent although Chinese authorities only began publicizing them in mid-1995. Many of these exercises simulate possible military operations against Taiwan, such as amphibious landings. Hong Kong's *Wen Wei Po* pointed out that the March 1996 exercises in the Taiwan Strait "serve to: (1) improve the army's military quality and modern operational level; and (2) demonstrate its ability to contain Taiwan independence and safeguard unity. In a certain sense, the second purpose of the current exercises is more important than the first."¹⁵

- *Military buildup:* A major buildup of PLA forces around the Taiwan Strait would cause considerable nervousness in Taipei and heighten military tensions. While occasional reports have surfaced of redeployments of missile units from other parts of the country into areas within striking distance of Taiwan, there is little solid evidence to indicate any large-scale redeployment into the so-called Nanjing War Zone. Most military units that took part in the March 1996 exercises appear to have returned to their home-bases.¹⁶
- *Limited sea and air blockades:* One purpose of the missile firings and military exercises in March 1996 by the PLA was to show it could blockade key maritime and air access routes into Taiwan. Target areas for the missile tests were close to Keelung and Kaohsiung which are located in the north and south of the island respectively. Chinese military analysts say that future missile drills could be expanded to cover a complete blockade of the island.¹⁷

Chinese military planners have also drawn up detailed contingency plans for military operations against Taiwan and any foreign powers, principally the United States, which might then come to Taipei's assistance. The PLA has a range of options if it was ordered to strike against Taiwan:

- *Low-intensity warfare:* China could send large numbers of fishing boats into Taiwanese waters to harass the island's coastal defense forces, or it could order its operatives in Taiwan to disrupt social order.
- *Limited surgical strikes:* The PLA could launch limited missile attacks on Taiwanese military facilities or seize outlying Taiwanese islands. Speculation was rife during the March 1996 exercises that China might be tempted to take one of Taiwan's smaller and less well-defended islands close to the Chinese mainland.¹⁸
- *All-out invasion:* An invasion of Taiwan would be an enormous undertaking for the PLA. It would require a massive force of several hundred thousand troops supported by huge numbers of aircraft and ships.

In the event that China decided to attack Taiwan, military chiefs would most likely press for an immediate and full-scale invasion. Massive surprise attacks have distinguished PLA opening campaigns in the past, such as in Korea in 1952, India in 1962 and Vietnam in 1979. More importantly, military planners believe that the gulf in cross-strait relations would be so wide by the time the leadership resorted to force that limited attacks would be futile in dissuading Taiwan from seeking independence and that the only viable option would be to invade the island.

Although the PLA has little experience in mounting large-scale amphibious invasions, and has limited dedicated sea-lift capabilities, military planners argue that the Taiwan Strait is not a major obstacle to a sea-crossing. One Chinese military analyst pointed out that "although the Taiwan Strait is more than 100 km wide . . . modern military technology can narrow the gap enormously. On the basis of establishing a marine military channel, the conveying speed of PLA naval vessels can reach over 16 knots, that is, 30 km per hour. In other words, they can sail from the west to the east coast of the Taiwan Strait in only five to six hours."¹⁹

U.S. military intervention presents a far more serious challenge to Beijing. While Washington has sought to be ambiguous as to whether it would come to Taiwan's aid if Taiwan were attacked by China, PLA planners have assumed U.S. support of Taiwan. The PLA has devised contingencies to counter U.S. actions that may range from shows of naval force in the Taiwan Strait—aimed at deterring the PRC—to direct military confrontation. Consequently, the deployment of the aircraft carrier USS Independence and its battle group near to Taiwan during the March 1996 crisis was foreseen by PLA chiefs and they confidently stated they could deal with any threat posed by the carrier.²⁰

Washington's dispatch of the USS Nimitz from the Persian Gulf to join the USS Independence was more surprising and may have caused Beijing to consider that the United States might respond more aggressively if conflict was to take place in the Taiwan Strait. Another development that alarmed China came shortly after the March crisis when the United States and Japan signed an agreement to expand their security cooperation, especially to deal with emergencies in the East Asian region. Chinese analysts believed the move was directed at China and,

more specifically, its actions against Taiwan. *Outlook* magazine, an authoritative Chinese mouthpiece, said these changes meant that the U.S.-Japan security relationship had turned from being "a defensive type to an offensive type."²¹

PLA planners had considered that U.S. military intervention in the Taiwan Strait would be conducted primarily by U.S. forces stationed in Japan, especially air and naval units. Some Chinese strategists argued that Beijing could neutralize this threat by putting pressure on Tokyo not to allow the United States to use its bases in Japan to launch attacks against Chinese forces.²² But the new U.S.-Japan security agreement appears to have squashed any hopes Beijing may have had in driving a wedge between Tokyo and Washington. As a result, U.S. and Japanese military facilities in Japan are likely to be targeted for possible attack, especially missile strikes, should the United States be drawn into direct confrontation against China.

Chinese New Military Strategy Toward Taiwan

The PLA has not seriously considered waging war against Taiwan since the late 1950s and it consequently lacks detailed strategic and operational plans to fight and defeat the formidably defended island-fortress. An urgent effort is now underway to come up with an effective battle plan.

The starting point for military planners is the PLA's new strategy of "Local War Under High Technology Conditions", which was adopted in 1993. This new strategy is the latest evolution of the "local war" strategy which came out in the late 1980s and focused on fighting small-scale, geographically-confined conflicts with limited political and military objectives.²³ The "Local War Under High Technology Conditions" strategy arose from the PLA's appraisal of the 1991 Gulf War and the acknowledgment of the central importance of high technology, which had been down-played in the past for political and operational reasons.

The PLA is still in the process of formulating a detailed set of operational doctrines and guidelines for the new strategy and they are not expected to be completed until later this year.²⁴ But some general principles have already been laid out:

- *Joint and combined arms operations:* The ability to conduct coordinated operations among the PLA's different services and arms is a top priority,²⁵ although military units have had few opportunities to take part in combined arms training.
- *Rapid reaction and mobility:* With the rapid and intense pace of modern warfare, quick reaction and mobility, especially over long distances, is essential.
- *Advance planning and preparations:* High technology wars are often decided in the opening rounds and pre-war preparations and planning can provide the decisive edge.²⁶
- *Firepower concentration:* The ability to concentrate firepower will provide an army the winning advantage in a high-technology war. Firepower concentration can also achieve operational and tactical surprise.²⁷
- *Utilizing new technologies and maximizing the effectiveness of existing technologies:* The PLA has become increasingly aware that new technologies, especially information-related technology, is radically transforming warfare. Military analysts are keenly studying this revolution in military affairs and how it may affect future force and doctrinal modernization. The PLA is also looking to maximize the effectiveness of its existing, but inferior, weapons systems with the introduction of new technologies and arms, such as cruise missiles, airborne early warning systems and state-of-the-art telecommunications networks.²⁸
- *Realistic combat training:* The PLA is radically overhauling its training regime and introducing more realistic exercises for military units to allow them to be better prepared to fight wars in the high technology era. This effort includes opposing force training, night maneuvers, combined operations training, long-distance deployments and live-fire exercises.²⁹

Drawing up a war-fighting strategy against Taiwan presents special difficulties for PLA planners which they do not confront in other theaters of operations. Taiwan is a small, heavily defended island more than 100 km from the Chinese mainland. The Taiwanese armed forces

are well-equipped and are likely to have access to strategic intelligence from the United States which would give them advance warning of any Chinese military activity that might be a prelude to an invasion. In addition, a Chinese assault on Taiwan could lead to U.S. military intervention.

PLA planners have come up with a range of measures to deal with these challenges:

- *Launching a preemptive attack:* The PLA would consider launching a preemptive assault against Taiwan to neutralize the island's technological superiority. As one Chinese strategist points out, "a preemptive strike has always been an effective way in which the party at a disadvantage may overpower its stronger opponent." He further added that, "in China's anti-aggression wars in the future, all military activities conducted by the enemy and aimed at breaking up China territorially and violating its sovereignty *de facto* constitute the "first shot" in strategic terms."³⁰
- *Conducting saturation missile strikes:* The missile exercises by the PLA's Second Artillery into the Taiwan Strait on several occasions since 1995 were a clear signal that missile attacks would form an integral part of combat operations against the island, either as weapons of terror for psychological impact, or as precision weapons to knock out key facilities, such as command and control points and airfields. The PLA has large numbers of tactical-range missiles, such as the new mobile M-9 that was used in the Taiwan Strait firings, as well as longer-range intermediate systems such as the DF-21s.³¹
- *Gaining sea control:* Securing control of the sea-lanes across the Taiwan Strait is critical for the PLA as a prelude to a forced sea crossing, especially as a large part of its invasion fleet is likely to be made up of slow-moving and unarmed civilian merchant ships.
- *Bypassing outer islands:* In an invasion of Taiwan, the PLA will bypass and isolate Taiwan's heavily fortified outer islands and concentrate on taking Taiwan itself. Chinese analysts point out that islands such as Jinmen, Matzu and Penghu are screens to block an attack on Taiwan.³²

- *Securing a beach-head:* A PLA invasion of Taiwan rests on achieving a successful forced landing. Gaining a beachhead will not be easy because there are only a few suitable landing sites on Taiwan, and they are likely to be heavily defended.³³ Once a beachhead is secured, the PLA would be able to pour in troops and eventually overwhelm the island.
- *Winning through attrition:* While the PLA hopes to win a war against Taiwan quickly, military chiefs are also prepared to rely on the PLA's overwhelming numerical superiority to break down Taiwan's defenses through attrition. The PLA would be willing to accept heavy casualties.
- *Utilizing civilian resources:* The PLA would augment its capabilities, especially its lack of sufficient sea-lift transportation, through the mobilization of civilian resources.

Command and Force Structure of Military Units Confronting Taiwan

Although the PLA is urgently revising contingency plans and upgrading capabilities for contingencies against Taiwan, it has not set up any special operational command or undertaken any major reorganization of the existing force structure which would place it at a higher level of combat readiness.³⁴ This shows that while the PLA is preparing itself for potential conflict in the Taiwan Strait, the threat of war is not likely in the near-term.

Policymaking on Taiwan takes place within the military's existing chain of command. The Central Military Commission (CMC) is in overall charge of preparations and sets out priorities and guidance on such issues as doctrine and politico-military matters. It also acts as a coordinating body and organizes regular meetings where heads of the PLA headquarters departments, service arms, military regions and other key military organizations meet to exchange ideas and come up with policies.³⁵

The CMC leadership has taken an active role in policymaking concerning Taiwan. CMC Vice-Chairman Gen. Liu Huaqing is the military's representative on the Politburo Standing Committee and has

been responsible for putting forward the military's uncompromising line. CMC Vice-Chairman Gen. Zhang Zhen is believed to oversee the formulation of strategic doctrines towards Taiwan, while another CMC vice chairman, Gen. Zhang Wannian, has been closely involved in supervising the PLA's exercises in the Taiwan Strait as part of his overall control of military training reforms.

Detailed operational planning is carried out by all the PLA's headquarters departments and service arms. The General Staff Department (GSD), especially its Operations Sub-Department, plays a leading role in the process. Other key organs include the GSD's Intelligence Sub-Department which provides assessments of developments on Taiwan and the General Political Department's Liaison Sub-Department which also gathers intelligence and undertakes propaganda work.³⁶

Nanjing MR and, to a lesser extent, Jinan and Guangzhou MRs are responsible for supervising preparations among frontline units which would be called into action in the event of conflict in the Taiwan Strait. Their responsibilities include overseeing military exercises, logistics support and the mobilization of reserve, militia and civilian authorities to support military operations in their areas. When the PLA held exercises in the Taiwan Strait in October 1995, Nanjing MR was referred to as a "zhanqu" (war zone or theater of operations), implying that PLA units in the region may have been put on a war-footing. But there is no evidence to suggest that the war zone and the military region are different organizations and the two terms are often used interchangeably in Chinese military writings.³⁷ The war zone concept instead appears to refer to the command authority for the October exercises, which was under the control of the Nanjing MR commander.

During the March 1996 exercises, Hong Kong's *Wen Wei Po* reported the establishment of the Southeast War Zone (Dongnan Zhanqu), saying that the command "straddled military regions and military actions straddling naval fleets."³⁸ The report also mentioned the need for central and local authorities to complete a "quick-response mobilization and organization system to guarantee the smooth progress in expanding the size of the establishment." The Southeast War Zone probably referred to coordination between the Nanjing and Guangzhou MRs during the exercises which extended from Shantou in Guangdong Province to Ningbo in Zhejiang Province. The comman-

der of these exercises was Gen. Zhang Wannian, indicating the Southeast War Zone was under the direct control of the CMC.³⁹

But the Nanjing MR's command and support system is being modernized to improve its effectiveness to coordinate military activities during wartime. These reforms include the following measures:

- *Streamlined command structure for combined operations:* The existing military region command, which has traditionally been dominated by the ground forces, is being reorganized and streamlined into a joint army-navy-air force command. The restructured command apparatus will be able to handle combined operations more effectively.⁴⁰
- *Unified logistics system:* Nanjing MR became the first organization in the PLA to establish a theater unified logistic command system in 1995.⁴¹ The ground forces, navy and air force have their own logistics network and there is little coordination and fierce rivalry among them. The new military region support headquarters is intended to enhance inter-operability among the services.
- *Return of PLA control over local military forces:* Local People's Armed Forces Departments (PAFD), which had been under the jurisdiction of local governments, have been put back under the control of the PLA.⁴² The PAFDs oversees the running of militia and reserve forces and their reintegration into the military command system is intended to improve wartime mobilization and preparedness. Chinese analysts point out that with increased intensity and higher attrition in modern warfare, the PLA's frontline group armies will have to rely on the support of local forces, such as reserves and militia, to a growing extent.⁴³

The strengthening and integration of local force units with regular main force units will substantially increase the assets of the Nanjing MR, although their combat value is debatable. Three group armies are presently stationed in the military region: the 31st Army in Xiamen, Fujian Province, with four divisions and an amphibious armored brigade; the 1st Army in Huzhou, Zhejiang Province, with three divisions; and the 12th Army in Xuzhou, Jiangsu Province, with three

infantry divisions and one tank division. With various other independent PLA units deployed throughout the military region, the total strength of regular units could be around 200,000 troops backed up by several hundred thousand reserve and militia personnel.

The navy's East Sea Fleet is headquartered in Shanghai with major naval facilities in Zhoushan, Zhejiang and Fujian. The air force headquarters is in Shanghai with airbases scattered around the military region, including an air army in Fujian. Many of these units are enjoying high priority in the allocation of new equipment and funds for training because of the preparations against Taiwan. Half of the PLA Air Force's Su-27 fighter planes and its four Kilo-class conventional submarines have been deployed in the military region and many units, especially those belonging to the 31st and 1st armies, have been put through their paces with regular exercises, including the high-profile series of maneuvers in the Taiwan Strait since the summer of 1995. Of the military region's 11 regular infantry and tank divisions, probably three to four may be designated as rapid reaction or category-A units.

Additional PLA units from around the country could also be moved to support military operations in the Nanjing MR, although there might be lengthy delays as rail, road and water transport networks in eastern China are already seriously strained. The most likely reinforcements will come from the seven group armies deployed in Jinan and Guangzhou MRs, especially the air-mobile 15th Air Army in Kaifeng, Henan Province and rapid reaction elements of the 54th Group Army in Xinxiang, also in Henan.

The PLA's Amphibious and Sea-lift Landing Capabilities with a Focus on Taiwan

The PLA's ability to mount a large-scale amphibious invasion of Taiwan has been dismissed by many foreign military observers because of its chronic lack of sea-lift capabilities. The Chinese navy presently only has enough dedicated transport and landing ships to carry no more than two infantry divisions across the Taiwan Strait at any one time.⁴⁴ Such a limited force would easily be overwhelmed by the 230,000-strong Taiwanese army.⁴⁵

Modernization and expansion of military sea-lift capabilities is an

urgent priority for the PLA, which is pursuing a two-pronged development strategy: building new generations of dedicated landing ships and calling up a huge civilian merchant marine fleet. The PLA navy's amphibious capability is largely comprised of around 400 ageing medium-sized mechanized and utility landing craft (LCM and LCU) and around 50 Yukan and Shan-class tank landing ships and Yuliang, Yuling and Yudao-class medium landing ships (LST and LSM).⁴⁶ New models of troop transport ships have been put into service in recent years, such as the Zhousan-class Type 072 tank landing ship and the Qiongsha-class assault troopship which can carry more than 400 troops or 350 tons of material.⁴⁷ In addition, the PLA has also begun to acquire high-speed air-cushioned landing craft which are ideal for the shallow mud-flats covering most of Taiwan's western coast.⁴⁸

While the navy's amphibious landing ships would spearhead the storming of Taiwan's beaches, civilian merchant and fishing ships could be used to ferry troops across the Taiwan Strait. China's civilian merchant fleet is among the world's largest with nearly 400,000 ships with deadweight tonnage of around 40 million tons. Its international shipping fleet has deadweight tonnage of more than 20 million tons.⁴⁹ The navy could easily mobilize sufficient merchant ships to transport an invasion force of 300,000 to 400,000 troops which would be needed in the initial phases of a conflict to overcome Taiwan's defenses.

Civilian vessels have been regularly taking part in military exercises in recent years. In November 1994, for example, a naval transport group based in Northeast China and a state shipping department participated in a rapid sea-lift exercise to move several thousand troops and heavy equipment, including tanks and artillery.⁵⁰ These ships may also be used by the PLA to closely support or undertake their own landing operations. During the March 1996 amphibious landing exercises, for example, merchant ships carried an artillery battalion to bombard the beaches.⁵¹

Taiwanese military planners are concerned that the PLA's amphibious landing fleet may be used as a feint and that civilian merchant ships and fishing boats would carry the PLA's main invasion force for irregular landing operations. Taiwanese Army Chief, Gen. Li Chen-lin, has pointed out that "the percentage of Taiwan's 1,000-km coastline that can be used to launch regular landing operations is very small, but

there are many locations at which irregular landing operations can be launched, such as the shores on both sides of large commercial and fishing ports.”⁵²

The cost of expanding the PLA's amphibious and sea-lift capabilities is relatively low when compared with the huge outlays for weapons systems. The Chinese shipbuilding industry has plenty of capacity to produce large numbers of amphibious landing vessels, but there is no evidence to suggest a building inventory of such vessels. If the PLA was given the go-ahead to mount an invasion of Taiwan, it would need at least two years to acquire sufficient dedicated transport and landing ships to be able to carry a large-sized force across the Taiwan Strait.

Conclusion: China's Resolve to Use Force and the PLA's War Preparations

The PLA's efforts to prepare its forces for possible hostilities in the Taiwan Strait does not mean that a conflict is imminent or even inevitable. But the underlying trends in cross-strait relations are not positive and unless the two sides can find a way to overcome increasingly entrenched animosities and distrust, a political and military showdown could occur within the next few years. Military chiefs, who are especially pessimistic over the situation, want to be ready for action.

Cross-strait relations have become stalled since the tense stand-off in the run-up to Taiwan's presidential election in March 1996. While Beijing has said it is still willing to talk with Taiwan about reunification, it believes that Lee Teng-hui has virtually turned his back on the "One China" principle and is seeking a permanent division across the Taiwan Strait. While Lee will not formally declare independence as this would almost certainly provoke a Chinese invasion, he is willing to use any informal mechanisms to enhance Taiwan's separate political identity on the international stage.

In Beijing's policy of containing Taiwan, the threat of military force is of paramount importance and perhaps one of the best hopes for avoiding a slide into conflict. If China can maintain the present *status quo* across the Taiwan Strait in the short and medium term, the balance of military, economic and diplomatic power will inexorably shift in its

favor and Taiwan will be forced eventually to reunite with the mainland. Taiwan also realizes its predicament and this explains its fierce determination to expand its international profile.

Establishing a credible deterrence to Taiwan's independence will be one of the PLA's top priorities for the foreseeable future. More resources will be devoted to building the capabilities to mount a successful invasion of Taiwan, which will also safeguard China's sovereignty and stability. While military chiefs hope a political solution can be found to avoid a conflict that would almost certainly result in huge military casualties, they are preparing for the worst. To ensure victory and minimize losses, the PLA's goal over the next decade is to amass overwhelming firepower.

Notes

1. Interviews, Beijing, March and September 1994.
2. Jiang Zemin, "Continue to Promote the Reunification of the Motherland", *Xinhua News Service*, 30 January 1995.
3. *Liberation Army Daily* (Jiefangjun Bao), 2 December 1994, p3.
4. "Li Peng on Importance of Modernizing National Defense", *Xinhua News Service*, 5 March 1996, in *Foreign Broadcast Information Service (FBIS)*, *China Daily Report*, 5 March 1996, p44. See also "Chi Haotian on Jiang Zemin's Views on National Defense, Economic Development", *Seeking Truth* (Qishi), 16 April 1996, No.8, pp8-14, in *FBIS*, 20 June 1996, pp27-35.
5. Interviews, Beijing, January 1996.
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7. "Jian 8-II M Model Aircraft," *Aerospace Knowledge* (Hangkong Zhishi), July 1996, p2.
8. Interview with Russian military official, December 1996.
9. "State Planning Commission Chairman on Need for Change," *Renmin Luntan* (People's Forum), 8 January 1996, No.1, pp4-6, in *FBIS*, 19 April 1996, p25.
10. *Liberation Army Daily*, 25 November 1994, p3.
11. *Liberation Army Daily*, 15 November 1995, p1.
12. Tseng Shu-wan, "Authoritative Person Stresses Force is Effective Means to Deal With Taiwan Independence," *Hong Kong Wen Wei Po*, 23 March 1996, p2, in *FBIS*, 23 March 1996. The *Wen Wei Po* became a leading mouthpiece of the Chinese authorities, especially the PLA, during the serious escalation in tensions across the Taiwan Strait in March 1996.
13. Chinese officials have also hinted on occasions that Beijing might also consider using force if a) Taiwan were to develop nuclear weapons; b) Taiwan were to refuse talks on reunification for a prolonged period of time; and c)

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14. "Abolishing Taiwan's Status as a Province is Designed to Achieve Taiwan Independence," *Wen Wei Po*, 3 January 1997, pA2, in *FBIS*, 3 January 1997.

15. "'Special article' by staff reporter stationed in Fujian: 'Viewing PLA Exercises in Fujian -Strong Military Pressure Will Be Maintained From Western Shore of Taiwan Strait,'" Hong Kong *Wen Wei Po*, 22 March 1996, p3, in *FBIS*, 22 March 1996.

16. Interview with Western military analyst, Washington D.C., April 1996.

17. "Beijing Military Analyst Analyses Significance of Military Exercise: An Attempt to Completely Blockade the Island of Taiwan," Hong Kong *Wen Wei Po*, 6 March 1996, p3, in *FBIS*, 6 March 1996.

18. Lin Chien-hua, "The Chinese Communists Intend to Use Force Against Wuchiu in Order to Initiate a Collapse in Psychological Defenses and to Affect Political and Economic Fluctuations," *Independence Evening News* (Tzu-Li Wan-Pao), 25 February 1996, in *FBIS*, 29 February 1996.

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21. Tang Tianri, "An Ominous Signal: Comments on the Transmutation of the U.S.-Japanese Assurance Security System," in Beijing *Liaowang* (Outlook), 29 April 1996, No. 18, p44, in *FBIS*, 29 April 1996.

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28. See Sun Zian, "Strategies to Minimize High-Tech Edge of Enemy," in

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29. Dennis Blasko, Philip Klapakis & John Corbett, Jr., "Training Tomorrow's PLA: A Mixed Bag of Tricks," *China Quarterly*, June 1996.

30. Lu Linzhi, "Preemptive Strikes Crucial in Limited High-Technology Wars," *Liberation Army Daily*, 14 February 1995, in *FBIS*, 6 February 1996, p20.

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32. Tseng Shu-wan, op cit.

33. Jia Xiaowei, "Initial Exploration of Shock Landing Tactics," *Liberation Army Daily*, 2 July 1996, p6, in *FBIS*, 2 July 1996.

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36. Lt Gen. Xiong Guangkai, head of military intelligence, is a member of the TALSG.

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38. "PLA Naval, Air Exercises Began Yesterday," *Hong Kong Wen Wei Po*, 13 March 1996, in *FBIS*, 13 March 1996.

39. Liu Huinian, Huang Qiusheng and Cao Zhi, "Zhang Wannian, Vice Chairman of the Central Military Commission, Watches the Exercises and Speaks," *Xinhua Domestic Service*, 25 March 1996, in *FBIS*, 25 March 1996. During China's border war with Vietnam in 1979, two war fronts (zhanxian) was established: the Northern War Front encompassing the Shenyang, Beijing and Lanzhou MRs, and the Southern War Front, made up of the Kunming and Guangzhou MRs. These fronts were under the authority of officers sent from the CMC and PLA general headquarters.

40. This new command structure applies not only to the Nanjing MR but other military regions as well. An article in the *Liberation Army Daily* in

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49. Liu E (Vice Minister of Communications), "Development and Investment Policies for China's Highway and Shipping Infrastructure," *Guanli Shijie* (Management World), 24 March 1995, No.2, in *FBIS*, 24 March 1995.

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52. Ibid.

Richard A. Bitzinger

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Military Spending and Foreign Military Acquisitions by the PRC and Taiwan

by Richard A. Bitzinger

Both China and Taiwan, for reasons of their own, are in the midst of major military modernization efforts. Much of China's current arms buildup program is directly related to Beijing's goal of becoming a world-class power by around 2020.¹ The defense development program reflects the evolution, beginning in the early 1980s, of its military doctrine away from the Maoist land-based and protracted "people's war" defense in favor of an "active defense" doctrine calling for rapid reaction to limited conflicts along its periphery. As a result of this doctrinal shift, acquiring the capabilities for force projection—in particular, long-range patrolling by air and by sea, and "sovereignty enforcement" (e.g., of Chinese claims over the Spratly Islands)—are increasingly important operational priorities.²

Over roughly the next 15 years, the People's Republic of China (PRC) appears to have the following force modernization priorities for power-projection: (1) across-the-board improvements in its "green-water" naval capabilities (i.e., out to the "first-island chain"), particularly in submarines, antisubmarine warfare (ASW) systems, and surface antiship platforms; (2) the acquisition of advanced combat aircraft, anti-air and antimissile defenses, and ballistic and cruise missiles; and (3) the creation of a more capable command, control, communications, and intelligence (C³I) network (including airborne and satellite-based systems) in order to integrate and effectively operate projected Chinese air force and naval assets.³

China's emerging strategic interests include expanding its influence in regional affairs, strengthening its territorial claims in the South China Sea, and competing with or even supplanting U.S. leadership and arbi-

trage in maintaining peace and stability in the Asia-Pacific region. However, a foremost goal in China's current long-term strategy is the forced reunification of Taiwan. As recent events have shown, China is not prepared to stand idly by and tolerate a growing Taiwan independence movement or even an effort on the part of Taiwan's government to raise its international profile. There is always the possibility, therefore, that improvements in China's military force structure could be used to seize Taiwan by force, or, at the very least, intimidate Taipei politically, economically, and psychologically into accepting reunification on Beijing's terms.

Not surprisingly, therefore, Taiwan's national defense priorities are geared primarily toward deterring or guarding against an assault by mainland China (e.g., a naval blockade, an air/missile attack, and/or a limited or full-scale invasion).⁴ As a result, increased priority is being given to expanding the size and capabilities of Taiwan's air force and navy. Taiwan's modernization priorities include: long-range patrolling, screening and defensive operations (e.g., air interdiction, ground-based anti-air and antimissile defense, antiship and ASW operations, and anti-landing operations).

Taiwan has detailed a number of specific goals for modernizing its armed forces over the next decade. These include: (1) a centralized, automated C³I structure for national air defense, integrating air-, sea-, and land-based surveillance (including improved airborne early warning capabilities); (2) modernization of Taiwan's naval and army C³I systems, along with improved underwater surveillance and army ground-reconnaissance capabilities; (3) across-the-board improvements in national air defense capabilities (e.g., combat fighters and surface-to-air missiles); (4) improved three-dimensional ASW capabilities (including airborne assets); (5) modern sea- and shore-based antiship missiles; (6) modern tanks and antitank weapons; and (7) modern electronic warfare capabilities.⁵

Both China and Taiwan harbor quite ambitious goals when it comes to modernizing their respective armed forces. This, in turn, raises the question of what kind of resources—both financial and material—these countries are committing to these modernization activities. This paper examines current PRC and Taiwan efforts (1) to provide sufficient funding, and (2) to acquire and to exploit foreign military

technology in order to support their respective defense modernization plans. The first section examines PRC and Taiwan military spending and discusses what such analysis can—and cannot—tell us about these countries' defense activities. The second part of this paper specifically looks at recent efforts on the part of China and Taiwan to obtain modern military capabilities through imports of both finished weapon systems and of foreign defense-related technology and how these two countries differ significantly in their approaches toward foreign arms acquisition.

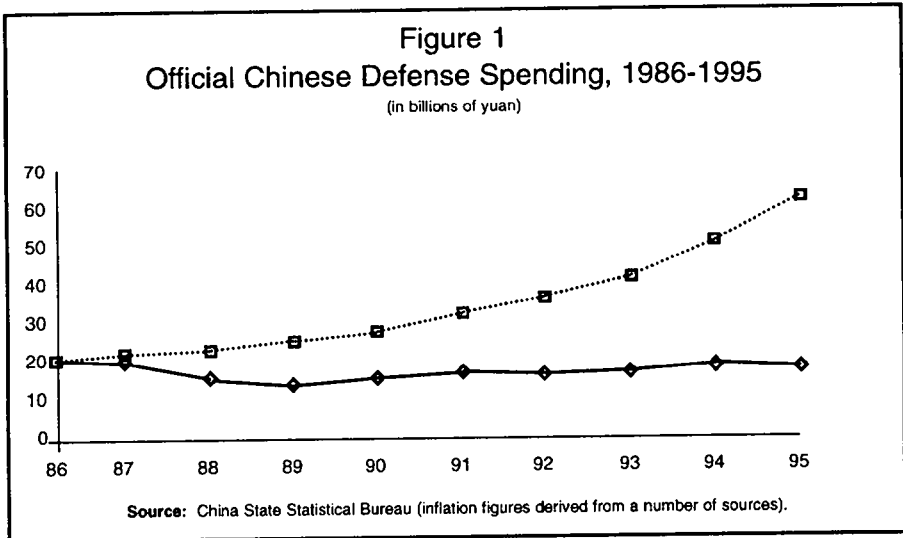
Comparing Chinese and Taiwanese Defense Expenditures

China

Every year, China releases a “top-line” figure for defense spending, which in 1996 totalled some 70 billion yuan (or approximately US\$8.4 billion at the current exchange rate). The 1996 defense budget marks the eighth straight year of nominal double-digit increases in Chinese military spending. Overall, the official budget for the People's Liberation Army (PLA) has more than trebled since 1986 and more than doubled during the first half of the 1990s. Inflation—which reached over 25 percent in 1988 and which is currently thought to be running at around 15-20 percent in China's superheated economy—has significantly undermined any increases in defense expenditures. Nevertheless, even after taking estimated inflation rates into account, the official Chinese defense budget has grown by more than 30 percent from 1989 to 1995 (Figure 1).

Of course, it is widely argued outside of China that the official defense budget does not fully represent Chinese military expenditures.⁶ First of all, several critical areas of defense spending are believed to be wholly or partially unaccounted for in the official budget. These include:

- Funding for military research and development (R&D)
- Purchases of foreign military equipment (an especially important category in recent years, given the jump in Chinese imports of



major weapon systems from Russia, such as Su-27 fighter jets and Kilo-class submarines)

- Direct subsidies to China's military-industrial complex
- PLA earnings from commercial economic activities and from arms exports (together believed to be worth several billions of dollars annually)
- Funding for the paramilitary People's Armed Police (PAP)
- Funding offsets from PLA-run farms

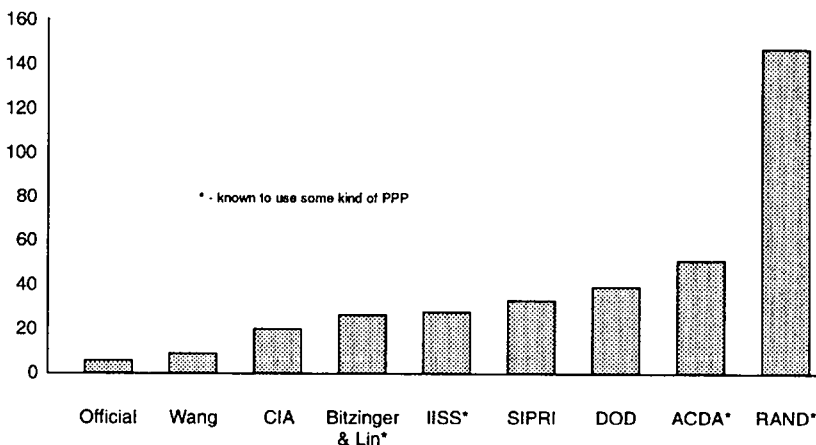
Adding in all this hidden spending would, of course, increase the size of Chinese military expenditures. In addition, due the relative purchasing power of the yuan, the actual value of likely Chinese military expenditures expressed in U.S. dollars is much higher than the official exchange rate might show. Because prices for labor, goods, and services in China are so low (a private in the PLA, for example, is paid the equivalent of only a few dollars a month), a yuan simply goes much further than it would in the West.

Thus, one may wish to apply a "purchasing power parity" (PPP) exchange rate to Chinese defense spending, in order to translate these

expenditures into what it might comparably cost in a Western country such as the United States. A PPP rate “purports to measure what a unit of the corresponding national currency can buy relative to the U.S. dollar if output in the national economy were priced at prevailing U.S. dollar prices.”⁷ Several individual economists and economic institutions, such as the World Bank and the International Monetary Fund (IMF), have attempted to devise PPPs for China.

As a result of these issues and factors, a veritable cottage industry has sprung up in the West in recent years dedicated to estimating likely PRC defense spending.⁸ These unofficial estimates of actual Chinese military expenditures employ many different approaches and methodologies to reach their figures (for example, some utilize PPPs, while others do not). Not surprisingly, they vary widely in their results. In 1994, for example, these estimates of Chinese defense spending range from a low of US\$10 billion to a high of US\$149 billion, compared to an official figure of \$6.1 billion (see Figure 2). The majority of these estimates (particularly those which employ some kind of purchasing power parity exchange rate) hover at around US\$28 billion to US\$50 billion—or four to seven times the official figure given out by Beijing.

Figure 2
Comparative Estimates of Chinese Defense Spending, 1994



Source: "Asia Times," July 23, 1996; Bitzinger and Lin (1994), IISS (1995), Wolf (1995), Wang (1995)

Taiwan

Analyzing Taiwan's defense spending is a much easier task, since budget data is comparatively more available. As Taiwan has democratized, its military has come under increasing pressure to be more open and forthcoming as to the level and breakdown of national military expenditures. This has culminated in the publication by Taiwan's Ministry of National Defense (MND) of biannual defense white papers (including English-language versions), beginning in the early 1990s.

Taiwan's official defense budget for Fiscal Year (FY) 1996 totalled 256 billion New Taiwan dollars (NT\$), or approximately US\$9.8 billion (at an exchange rate of NT\$26 = US\$1.00). While Taiwanese military budgets (measured in real, inflation-adjusted, terms) have remained largely static since FY 1993, Taiwan's defense spending did enjoy considerable growth for several years prior to this. Between FY 1985 and FY 1994, for example, Taiwanese defense budgets rose by over 50 percent in real terms (see Figure 3).

Even more remarkable, this real growth in military spending occurred even as the financial burden of national defense dropped. As Figure 3 shows, Taiwan's defense spending as a share of the country's gross national product (GNP) actually declined from 7.7 percent in FY 1985 to 4.3 percent in FY 1994, mainly because of the tremendous real growth in the country's GNP (more than 84 percent) over this same period.⁹

As with China, the official Taiwan military budget does not account for all defense related spending in Taiwan—although, unlike the PRC, Taiwan does not conceal this fact. The official budget only covers spending for the Ministry of National Defense and thus does not include non-MND funding for other, defense-related central government expenditures. These include defense-related spending for science, social security, and pensions, which are funded out of other budgets. In FY 1994, these expenditures amounted to NT\$20.5 billion (US\$790 million).¹⁰

In addition, the official Taiwan defense budget does not include procurement costs related to the purchases of two new types of fighter aircraft: the F-16 and Mirage 2000-5. In 1992, Taiwan decided to buy 150 F-16s and 60 Mirages, and to pay for these aircraft out of a special budget running from FY 1993 through to FY 2001. This special

budget will total over NT\$300 billion (US\$11.5 billion) over its nine-year time frame (see Table 1). For FY 1993 and FY 1994, this special budget was programmed at NT\$46.9 billion (US\$1.8 billion) and NT\$39.9 billion (US\$1.5 billion), respectively.¹¹

Finally, in recent years, Taipei has occasionally appropriated additional funding to cover military pay raises. In FY 1993 and FY 1994, these expenditures amounted to NT\$8.6 billion (US\$331 million) and NT\$9.4 billion (US\$361 million), respectively.

Actual FY 1996 Taiwan defense spending could total as much as US\$13 billion, or approximately US\$3 billion more than the declared MND budget. A PPP exchange rate for Taiwan might raise this figure slightly.¹²

It is possible, of course, that Taiwan could be hiding additional defense expenditures. For example, public expenditures for economic development (which totalled over a half trillion New Taiwanese dollars

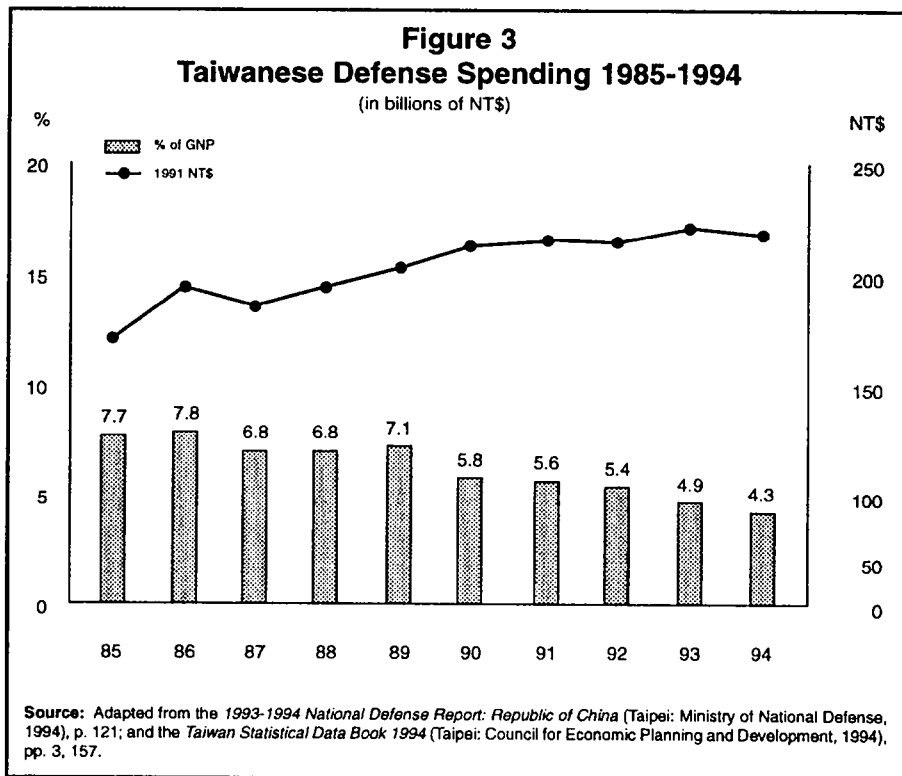


Table 1
Special Procurement Budget
for F-16/Mirage 2000 Fighters

(in millions of NT\$)

1993	46,900		1997	58,197
1994	39,868		1998	47,355
1995	36,248		1999	10,815
1996	60,792		2000	507
			2001	28

Source: 1993-94 National Defense Report: Republic of China (Taipei: Ministry of National Defense, 1994), p. 126.

in 1994) could be used indirectly to support Taiwan's military-industrial complex. In particular, such funding could help upgrade technology and manufacturing techniques utilized at state-run facilities which build both civilian and military products, such as the China Shipbuilding Corporation and the Aero Industry Development Center (AIDC). Significant efforts at such concealment, however, is increasingly difficult in a more open, democratic society, and any covert or indirect defense spending is likely to be minor, especially when compared to China's hidden military expenditures.

Summary Observations

After aggregating all likely defense spending and accounting for local purchasing power, it seems reasonable to conclude that Chinese military expenditures are at least US\$28-30 billion, while Taiwan is spending around US\$13-14 billion on its defense. In other words, the mainland outspends Taiwan by better than two-to-one. *In fact, in terms of purchasing power, China's military budget could be the largest in Asia, bigger than that of India or even of Japan.*¹³

Nevertheless, even after all this, we are still left with a big "so what?" Just because China is spending much more on its defense than it admits, one cannot automatically infer growing Chinese military power. In the first place, even taking into account hidden spending, China's defense budget probably absorbs only about 3.5 percent of the country's GNP—roughly the same as in the United States and many other large powers.

At the same time, over the past 12 years, Taiwan has been in the

enviable position of being able to afford a significant increase in real defense spending even as the burden of such expenditures (in terms of percentage of GNP) has dropped. If military spending can be an indicator of a country's resolve, then the Taiwanese are certainly demonstrating a firm and continuing commitment to their national self-defense.

More important, it would be presumptuous to argue, on the basis of such budgetary data alone, that there is a growing Chinese threat to the region. Such an assessment demands much more than simply looking at top-line budget figures. In fact, for defense budgets to tell us anything really useful about Chinese strategic intentions and potential military capabilities, one needs much more detailed information as to long-term Chinese R&D and procurement spending plans, expenditures for operations and maintenance, etc. (although, to be fair, Taipei's White Papers also do not disaggregate totals for defense R&D and procurement spending out of the overall investment account, nor do they itemize R&D or procurement spending).¹⁴ In the absence of such data, analyzing Chinese defense expenditures is still a very inexact and limited science.

However, defense budget analysis does reveal one very glaring fact: The Chinese continue to grossly underrepresent their actual military expenditures. This, in turn, raises considerable doubts as to how much one can trust official statements of Chinese intentions when it comes to other regional security concerns, such as Taiwan or the Spratly Islands. And Chinese arrogance in the face of external criticism regarding the dubiousness of official military budgets only compounds this mistrust.

Comparing Chinese and Taiwanese Arms Imports

China

The acquisition of Chinese power-projection capabilities will depend to a very large degree on indigenous production networks. In this regard, China possesses one of the oldest, largest, and most diversified military-industrial complexes in the developing world, comprising more than 2,000 enterprises, factories, and research centers, and employing hundreds of thousands, if not millions, of workers. As a

Recent Chinese Arms Imports

	Qty	Remarks
Air Force:		
Su-27 fighter	72	Russian; possible licensed-production as well
AA-8 short-range AAMs	96	For Su-27
AA-10 medium-range AAMs	144	For Su-27
Python III short-range AAMs		Israeli; likely licensed production
J-8II upgrade/FC-1 fighter		Russian/Israeli technical assistance
J-10		Alleged Israeli tech transfer
A-5M attack jet		Italian avionics; status unknown
Il-76 transport planes	10?	Russian
Cruise missile technology		Alleged Russian/Israeli tech transfer
In-flight refueling technology		Alleged Iranian sale
Jet engines	100?	From Russia, for J-7 fighter jet
Jet engines	33?	From U.S.; for K-8 trainer jet
Army:		
T-72 main battle tanks	50?	Alleged Russian sale
AS-365N transport helicopters	50	French; licensed-production
Mi-17 transport helicopters	24	Russia
S-300 SAMs	100?	Russia
Patriot SAM technology		Alleged Israeli tech transfer
Navy:		
Kilo-class SSKs	4	Russia
Sovremennyy-class DDGs	2	Russia
Crotale SAM		French; for Luhu-class destroyer
Luhu-class destroyer	2-4	Utilizes systems imported from number of Western suppliers
Submarine technology		Alleged French, Russian, Israeli assistance
Turbine engines		For Luhu-class destroyer; German and U.S.
SS-N-22 antiship cruise missiles		For Sovremennyy-class destroyer
Early Warning/C3I:		
AEW aircraft		Israeli, Russian, or British (under discussion)

Source: Compiled from Gill and Kim, *Chinese Arms Acquisitions from Abroad*; *SIPRI Yearbooks* (various years); *Jane's* annuals (various editions and years); *Jane's Defense Weekly*; *Defense News*; *Flight International*; and *Aviation Week & Space Technology*.

result, China has achieved a relatively high degree of self-sufficiency in arms production, and it is one of the developing world's few producers of a full range of military systems.

Nevertheless, special consideration must be given to the weapons and military technologies which China seeks from abroad. In most cases where China is undertaking or planning major modernization of its armed forces, foreign assistance has been deemed to be increasingly essential. In recent years, Russia and Israel have been the most prominent suppliers of weapons and military technology to China.¹⁵ Recent Chinese arms purchases from Russia include Su-27 fighter jets, Kilo-class diesel-powered submarines (SSKs), Sovremennyy-class missile destroyers, T-72 tanks, Mi-17 helicopters, and the SA-10/S-300 surface-to-air missile system. The PLA is in the process of buying at least 72 Su-27s from Russia. More importantly, Beijing recently paid \$1.5 billion for a license to produce the Su-27 indigenously; at least 200 of these fighters will be built in China starting around the turn of the century.¹⁶ In addition, there have been reports that Chinese J-8-2 fighters will be upgraded with new avionics, engines, and armaments provided by Russia, while Mikoyan, a Russian aerospace company, is collaborating with China and Pakistan on developing an improved variant of the J-7 (MIG-21) combat plane, dubbed the FC-1 or Super-7 fighter.¹⁷

In 1995, China purchased two Kilo-class diesel-powered attack submarines from Russia, and delivery of two more advanced versions is expected soon. There have been various reports that Beijing may ultimately acquire up to 22 Kilos—although a purchase this large would probably entail a licensed-production arrangement—while other reports indicate that Chinese may incorporate Kilo-derived technology in future, indigenously produced Song-class SSKs.¹⁸ In addition, during a December 1996 meeting in Moscow between Chinese and Russian officials, China signed an agreement for the purchase of two Sovremennyy-class destroyers, which will be outfitted with state-of-the-art antiship missiles and air defenses.¹⁹

Finally, China is reportedly receiving Russian stealth technology that could be used to field a low-observable cruise missile by 2010.²⁰ There have also been persistent rumors that Russia is trying to sell its Mainstay airborne early warning (AEW) aircraft to China.

Actual, alleged, or prospective Israeli high-tech military transfers to China include AEW aircraft, submarine combat systems and radar, reactive armor, the Python III short-range air-to-air missile (AAM), and various electronic warfare and electronic intelligence-gathering (ELINT) systems.²¹ Of particular importance, Israel is reportedly providing China with considerable technology and design/engineering assistance regarding its J-10 fighter program. An artist's conception of the J-10 released by the U.S. Department of Defense reveals a lightweight, single-engine plane with delta wings and forward canards; such a design would almost certainly involve the use of advanced materials and avionics and would feature some stealth characteristics. This Israeli assistance likely involves avionics, control-configured vehicle (CCV) technology, flight control systems, composites and other advanced materials, all drawn from the cancelled Lavi program; some of this technology is American in origin.²² In addition, Tel Aviv is reportedly cooperating with the Chinese on developing a cruise missile based on the Israeli Delilah turbojet-powered decoy drone.²³

While Russia and Israel have recently emerged as China's most important suppliers of military technology, other suppliers—among them the France, Italy, the United Kingdom, and even the United States—have also provided a range of technologies which can contribute to Chinese military modernization efforts. France has permitted the Chinese to license-produce the AS-365N transport helicopter (dubbed the Z-9). Thomson-CSF has won a contract to outfit at least two Luh-class destroyers with a navalized Crotale SAM, the Sea Tiger air/sea search and target designation radar, and a TAVITAC tactical data-handling system.²⁴ In addition, both the PLA Navy's Ming-class SSK (basically a Chinese version of the old Soviet "Romeo" design) and Han-class nuclear-powered attack submarine have reportedly been upgraded with a French sonar and combat system.²⁵ The Chinese have reportedly produced a version of the Italian-designed Whitehead ASW torpedo, and there have been allegations that China may have reverse-engineered the U.S. Mk-46 torpedo, after four were sold to the PLA in the mid-1980s.²⁶ The Chinese have also reverse-engineered the American ASROC ASW rocket, which the PLA has designated the CY-1.

Special Issue: Dual-Use Technology Transfers and "Spin-On"

China's current arms buildup is being mostly aided by imports of weapons and military technology from Russia and Israel. At the same time, because many advanced commercial technologies increasingly offer new and potentially quite significant opportunities for military applications, the concept of "military technology" and what constitutes its diffusion are becoming more difficult to define. Such "dual-use" technologies are increasingly valued as a short-cut to defense production or as a cost-effective means of leveraging technology breakthroughs in the commercial sector for military purposes.

The growing military utility of advanced commercial technologies means that civilian-to military "spin-on" promises to be a much more important tool in the future development and production of advanced military systems. As such, the international transfer of commercial high-technology from the developed to the developing world is a potentially serious proliferation concern.

This is particularly relevant when it comes to China. Many of China's current military modernization activities involve the extensive use of dual-use technologies. In this regards, the West—and especially the United States—has been a critical supplier of investments and dual-use technologies that are helping China develop civilian high-tech industries, which in turn could be applied toward the design and manufacture of sophisticated weapon systems.

For more than a decade, Western aerospace companies have been involved in extensive technology transfers to China's commercial aerospace industry. For example, McDonnell Douglas, America's second-largest civil aircraft manufacturer, has established an assembly line in China (the so-called Trunkliner program) to build its series of MD-80 and MD-90 passenger jets. Boeing and the European Airbus consortium have also transferred production facilities to China.

There is, in fact, already evidence that such commercial technology transfers have aided China's military aircraft industry. For instance, experience gained from coproducing the MD-80 jetliner has reportedly helped the Chinese improve manufacturing and quality control in its jet fighter programs.²⁷ Moreover, there is growing evidence that at least some transferred U.S. commercial aerospace technology has been

illegally redirected toward China's military-industrial complex. For example, the Chinese purchased from McDonnell Douglas a number of large computerized, numerically controlled (CNC) machine tools, including multi-axis milling and profiling machines, that were laying unused in a closed aircraft plant. These tools were supposed to be used only for the Trunkliner civil aircraft manufacturing program and were supposed to be stored until a special machine center was constructed. U.S. government investigators, however, discovered that some of these machine tools had actually been diverted to a Chinese facility engaged in military production. Fortunately, the diversion was found out before these tools could be misused.²⁸

The military utility of other types of commercial technology transfers are perhaps not so self-evident but are no less ominous. In particular, technologies surrounding the "information revolution" in business and in everyday life will have an increasingly critical impact on the military. Warfare in the "information age" entails improved command and control, advanced reconnaissance, surveillance and target acquisition capabilities, and the ability to launch long-range, precision-guided strikes against the enemy. As a result, various information technologies (IT)—such as microelectronics, computers, telecommunications, and data-processing—have the potential to revolutionize the way wars will be fought in the future. Many of these critical information technologies are, of course, widely used in civilian sectors. More importantly, the commercial IT sector has long been the center of innovation, with the military increasingly piggybacking on these breakthroughs.²⁹

Again, the United States has been an important supplier of dual-use information technologies that could be redirected towards China's military-industrial complex. The U.S. government has permitted the sale of billions of dollars worth of dual-use technology to China, including computers, encryption technology, fiber-optic and microprocessor manufacturing equipment, and CNC machine tools.³⁰ Thanks to these and other foreign investments, China is becoming increasingly proficient in the areas of telecommunications, semiconductors, software, and computer-assisted manufacturing—all of which provide China with growing opportunities for spin-on, particularly when it comes to information-warfighting. For example, China's semiconductor industry, which barely existed a decade ago, could be producing submicron-

sized chips by 2000. In addition, China is soon expected to be self-sufficient in digital switches, fiber optics technology, and cellular communications systems.³¹ In this regard, it is important to note that electronics and machinery are two of five “pillar industries” that are the special focus of the China State Planning Commission’s near-term modernization drive—an effort, incidentally, that emphasizes the use of foreign joint ventures.³²

The problem of dual-use technology transfers and the subsequently growing potential for spin-on will increasingly vex Western and other foreign policymakers when it comes to investing in China. Most commercial technology transfers, even to China, are benign and mutually beneficial to both supplier and recipient alike; limiting such investments could be very difficult, for both political and economic reasons. At the same time, the sizable military potential of so many sophisticated commercial technologies demands that suppliers be increasingly aware that weapons proliferation is no longer simply a matter of a particular technology’s immediate end-uses, but of all its likely uses.

Taiwan

For its part, Taiwan has, since the mid-1970s, stressed the notion of “self-reliant national defense” in its arms procurement activities, in order to reduce its dependency upon foreign suppliers.³³ One Taiwanese defense official recently noted that “it is important to develop a self-defense capability without relying on outside assistance.”³⁴ This, in turn, has meant an emphasis on creating an indigenous military R&D and production capacity aimed at meeting national defense needs.

Overall, for a small, newly industrialized country, Taiwan has made considerable progress in developing and building a wide array of weapon systems, including small arms and artillery systems, surface combatants, armored vehicles, six types of tactical missiles, and even supersonic fighter aircraft. Furthermore, many of these systems are remarkably sophisticated. Taiwan’s Indigenous Defensive Fighter (IDF), for example, incorporates a number of advanced technologies, including composite structures, a fly-by-wire flight control system, advanced cockpit displays, and a beyond-visual-range air-interdiction capability.

Despite having made impressive strides in some areas of military R&D and production, however, Taiwan's defense industrial base remains underdeveloped. Overall, defense R&D activities in Taiwan are still quite limited, and its cutting-edge strengths in wholly indigenous arms manufacturing appear to be still at the "low-tech" stage, i.e., small arms, artillery systems, and ship hulls.³⁵ Even after several years of significant investments in infrastructure and technology, Taiwan's arms industry presently appears to be at a technology plateau, stuck somewhere in the middle of the "ladder of production" when it comes to the development and manufacture of indigenous weapon systems.

As a result, the Taiwanese military continues to be extremely—if not increasingly—dependent upon foreign technologies or on foreign weapon systems. During the period FY 1991-93, for example, while foreign purchases comprised only 17 percent of the number of incidents of Taiwanese defense procurement, they accounted for over 45 percent of the value of all such procurement.³⁶

Many so-called indigenous military systems are actually based on foreign designs and/or utilize large amounts of foreign technology, components, and systems integration skills, mostly imported from the United States. The new Chengkung missile frigate, for example, is basically a licensed-produced version of the U.S.-designed Perry-class ship. In addition, nearly all of the Chengkung's electronics (including its radar and sonar, weapons control system, and electronic countermeasures) were bought "off-the-shelf" from the United States. Meanwhile, Taiwan's new Chiang Wang ("Strong Net") automated air defense C³I system was designed, engineered, and integrated by Hughes Aircraft, utilizing mostly U.S. hardware.

U.S. technology has been critical to several other "indigenous" weapon systems. The Tien Kung I SAM is reportedly a hybrid system utilizing the missile and launcher found in the Patriot air defense system and the electronic systems of the Hawk SAM, while the longer range Tien Kung II is supposedly derived from the Nike-Hercules missile.³⁸ In addition, the Tien Kung's phased array radar is a licensed-produced system originally developed by Lockheed Martin Corporation. Taiwan's new Modified Air Defense System (MADS) for protection against aircraft and missile attack is largely based on the PAC-2 version of the Patriot SAM; Raytheon Corporation, in fact,

will be providing the fire units, missiles, logistics, spares, installation, and training for this system. The Hsiung Feng antiship cruise missile, meanwhile, is reportedly a licensed-produced version of Israel's Gabriel missile.³⁹

Even the IDF is heavily based on U.S. technology or subsystems,

Recent Taiwanese Arms Imports

	Qty	Remarks
Air Force:		
F-16	150	U.S.
Mirage 2000-5	60	French
AIM-9L short-range AAMs	900	For F-16
AIM-7F medium-range AAMs	600	For F-16
Magic short-range AAMs		For Mirage
MICA medium-range AAMs	1440 ³⁷	For Mirage
Laser-guided bombs		French; for Mirage
Army:		
M-60 main battle tanks	160	U.S. surplus
AH-1 antitank helicopters	42	U.S. surplus
OH-58D scout helicopters	26	U.S. surplus
MADS AD system		Based on Patriot SAM
Stinger short-range SAMs		U.S.
Navy:		
Perry-class frigate	7-11	U.S.; licensed-production
Lafayette-class frigate	6-16	French; later ships will probably be licensed-produced
Knox-class frigate	9	U.S.; lease
SH-2 ASW helicopters	12	U.S.
S-70 ASW helicopters	9	U.S.
Harpoon AShM		U.S.; for Knox-class frigate
Early Warning/C3I:		
"Strong Net" AD network		U.S. firm performed systems engineering/integration
E-2T AWACs	4	U.S.
Mobile Subscriber Equipment		U.S.

Source: Compiled from *SIPRI Yearbooks* (various years); *Jane's* annuals (various editions and years); *Jane's Defense Weekly*; *Defense News*; *Flight International*; and *Aviation Week & Space Technology*.

design and systems integration assistance, test equipment, and even production tooling. The airframe's design and development, for example, were overseen by General Dynamics Corporation (later Lockheed Martin). Allied Signal, meanwhile, aided the Taiwanese in developing the IDF's engine, which is based on its TFE-731 turbofan. The aircraft's radar is derived from the General Electric Company's APG-67 radar system (originally developed for the F-20), while several U.S. companies assisted in designing and producing the IDF's avionics, cockpit instrumentation, and flight-control system.

More important, in recent years, Taiwan has increasingly opted for off-the-shelf purchases of entire foreign weapon systems, curtailing or foregoing indigenous development and production. Examples of this include the 1992 purchase of 150 F-16 and 60 Mirage-2000 fighters (along with their attendant air-to-air missiles), four E-2T early warning/command and control aircraft (AWACS), and the French-built Lafayette frigate. The Taiwan military is also buying 160 used M-60A3 tanks from the United States, in lieu of producing additional, locally developed, M-48H "Brave Tiger" tanks. (Taiwan's army had once intended on purchasing 450 M-48H tanks, but the system's "high unit price and poorer than expected performance" led to a reduced buy of only 200.⁴⁰) Taiwan is also buying several hundred Avenger/Stinger surface-to-air missile systems.⁴¹

In fact, despite its declaratory goals, Taiwan has increasingly come to acknowledge the problems with building an advanced military R&D and production base. In a speech given in July 1994, Taiwan's Defense Minister conceded that "[i]t is not economically possible for a country [the size of Taiwan] to manufacture . . . all the weapons it needs."⁴² The high cost and low return on indigenous R&D and production are, of course, two factors in the growth in off-the-shelf foreign buys. However, the fact that the Taiwanese military increasingly buys overseas, even when it has a domestic option (e.g., the IDF, the Tien Kung SAM, the M-48H tank), is an indicator of the higher relative military value it places on foreign weapon systems.

Ironically, the end of the Cold War has worked considerably to Taiwan's advantage when it comes to force modernization. Given the global reduction in military spending and a corresponding drop in arms procurement at home, major arms producers in the industrialized coun-

tries have been aggressively seeking to expand their overseas sales in order to mitigate against an underutilization of production capacity. This has resulted in an increasing availability of advanced weapon systems on the global arms market, along with a considerable easing of restrictions on the sale of high-tech military equipment to Taiwan—the kind of barriers that were responsible for stimulating much of the development of Taiwan’s indigenous defense industry in the first place. Moreover, this glut of arms has created a “buyer’s market” that has made it easier for the Taiwanese to obtain advanced weapon systems at favorable prices, often with lucrative financing (e.g., offsets). For example, in 1992, when the Taiwanese announced their intention to buy Mirage-2000 fighters, the U.S. government quickly approved the sale of 150 F-16s to Taiwan, despite a 10-year-old agreement with China to curb arms exports to Taiwan. In addition, the manufacturer of the F-16 offered a 10 percent (\$600 million) offset package (including the local production of F-16 parts) to Taiwan as part of the deal. France has agreed to a similar offset agreement in conjunction with Taiwan’s Mirage-2000 purchase.⁴³

On the other hand, this growing utilization of foreign systems and/or technologies does not bode well for the future of Taiwan’s indigenous defense industrial base. As Taiwan’s 1993-94 white paper points out, since the “purchase of weapons from foreign countries is easier than before . . . the original plan for independent production of weapons must be stopped or reduced.”⁴⁴ The Aero Industry Development Center, for example, at one time had plans to develop an improved variant of the IDF, featuring a more powerful engine, an increased use of composites, and perhaps even a wholly new design incorporating “stealthy” technologies.⁴⁵ Such a follow-on fighter program is now very unlikely, however, because Taiwan’s air force now plans to terminate IDF procurement at 130 aircraft (instead of 250 or more, as originally envisioned).

Summary Observations

China and Taiwan hold very distinct philosophical differences when it comes to importing and utilizing foreign military technology. Overall, China is exploiting foreign technologies in three ways: (1) by

importing modest numbers of finished weapons, presumably with the goal of ultimately reverse-engineering or license-producing these systems (e.g., the Su-27 fighter and the Python III AAM); (2) by the importing advanced subsystems and components, in order to upgrade existing Chinese weapon systems (e.g., French missiles and radar for the Luh-class destroyer; and (3) by importing technology and technical assistance in order to aid the development of new indigenous systems (e.g., Israeli assistance on the J-10 fighter and Chinese cruise missile programs).

In general, China seeks technology transfers that ultimately support its indigenous arms production efforts. Beijing continues to emphasize a policy of self-reliance in defense R&D and manufacture, and foreign military technologies have been mostly used to advance the country's military-industrial complex. While China may buy a limited number of foreign weapon systems off-the-shelf, the stress is still on localizing production (i.e., licensed production or reverse-engineering) or on using foreign technology to upgrade or to develop more advanced indigenous weapons. In other words, China seeks to "indigenize" imported technology, and therefore to own and to control it outright.

Hence, the most important aspect of recent arms exports to China may not be the sale of finished weapon systems but the injection of critical, "enabling" technologies into Chinese defense technology and industrial base. China continues to focus heavily on acquiring "value-added" technologies (such as components, subsystems, and "know-how"). In this regard, the most ominous technology transfers to China relate to cruise missiles, advanced fighter aircraft (i.e., the Lavi or the Su-27), submarines, and information-based warfare—i.e., capabilities for power projection.

Military technology imports probably remain the single-best means by which China can make significant and rapid progress with regard to the acquisition of advanced military systems. This path, however, raises a number of issues which could conceivably constrain Chinese efforts to achieve breakthroughs in military modernization through foreign technology imports. One issue has to do with access—in other words, how successful is China likely to be in obtaining critical technologies from overseas? In fact, while Western military-technological

assistance has almost completely dried up since the 1989 Tienanmen Square massacre, Russia and Israel have more than filled this vacuum. These countries have been more forthcoming with advanced technology than Western suppliers ever were during the 1980s. In addition, Russia and Israel appear to be much more permissive when it comes to transferring usage rights for this technology.

The second issue is: Once it is made available to them, how effective are the Chinese at absorbing this technology? Here, the answer is less clear. Overall, China's past experiences with effectively exploiting foreign weapon systems and technology have been mixed. For example, while the PRC successfully licensed-produced such weapon systems as the MIG-19 fighter and the T-54 main battle tank, they suffered considerable difficulties with others (e.g., the MIG-21 and the British Spey engine). For one thing, reverse-engineering (or, to use the Chinese phrase, "copy production") is more difficult to accomplish as the nature and sophistication of weaponry advances. This is particularly critical in the 1990s, when electronics, telecommunications, computers, and information-processing are increasingly critical to military effectiveness. Reverse-engineering is a much more complex and complicated task today than it was in the 1950s or 1960s, when it largely consisted of taking apart and copy-producing hardware.⁴⁶

In addition, China is still saddled with an extremely inefficient, overcapacitized, and undercapitalized defense industrial base. As such, the Chinese defense acquisition process traditionally has tended to be haphazard and halting, and this has certainly impeded efforts in the past to exploit technology breakthroughs, whether domestic or foreign-sourced.⁴⁷ Moreover, adapting and integrating dual-use commercial technologies into military systems is not often a simple "plug-and-play" process; it can require a considerable R&D effort that may not yet exist within China's military-industrial complex.

Thus, one is entitled to a certain amount of skepticism as to how many of China's current, foreign technology-based, joint venture weapons programs will be successfully developed and deployed. On the other hand, Chinese efforts at absorbing and adapting imported know-how could be aided by new initiatives aimed at rationalizing China's defense industrial base⁴⁸ and by the direct assistance of Russian and Israeli advisers. These advisers could be especially critical when it

comes to systems engineering and integration, ensuring quality control, and setting up production. These factors greatly increase the likelihood that China will experience some important breakthroughs in modernizing its armed forces with imported technology. For example, as already mentioned, Israel is reportedly providing aid to China regarding the J-10 fighter program. Besides supplying technology, Israeli assistance will likely to be utilized to establish a production line and even provide advanced systems and components (probably produced in Israel).

Given budgetary constraints and the overwhelming size of the PLA, it is unlikely that China would attempt to modernize its entire armed forces. It is more probable, therefore, that China will attempt some kind of “high-low” approach when it comes to military modernization, by upgrading perhaps 10 to 20 percent of its current force structure.⁴⁹ This would still be a sizable force (at least 300,000 troops), armed with tactical ballistic missiles, cruise missiles and other types of precision-guided munitions, advanced fighter aircraft, modern submarines and antiship cruise missiles, and improved tactical surveillance and communications. For example, China reportedly plans to produce at least 200 to 300 J-10 fighters, beginning around 2003.⁵⁰ Should the PLA successfully deploy this aircraft in such numbers (together with an equal number of imported and license-produced Su-27s), it would constitute a significant improvement in the fighting effectiveness of its air force.

Moreover, thanks at least in part to foreign assistance, China could deploy a rudimentary land-attack cruise missile sometime during the first decade of the twenty-first century. For example, there have been persistent allegations that the Chinese are “actively and aggressively” attempting to adapt its C-802 ASCM into a land-attack cruise missile; this system will probably feature some kind of GPS-like guidance/navigation system and perhaps “terrain-conforming” (TERCOM) technology for terminal homing.⁵¹

In sum, one cannot presume that China will not achieve certain high-tech breakthroughs in near-term military capabilities. First, despite its reliance on an often backwards defense technology and industrial base, China has chalked up some rather impressive successes: the so-called “pockets of excellence,” such as the development of

nuclear weapons and a space launch capability. It is clearly with those achievements in mind that current slogans call on the defense science and technology community to close ranks and focus on key projects.⁵² While this may be a far more difficult task than in earlier periods, a well-focused effort on the part of the Chinese, *together with key inputs of foreign technology*, is likely to result in a limited number of breakthroughs in certain areas of advanced military hardware over the next 15 to 20 years.

For its part, Taiwan is increasingly fulfilling its major acquisition requirements with weapon systems purchased off-the-shelf from foreign suppliers, even at the expense of its indigenous military-industrial complex and at the risk of increasing its dependency on foreign suppliers. This is a significant reversal of its policies of the 1970s and 1980s, when Taipei embarked on an ambitious effort to develop a modern, high-tech arms industry.

Given the apparently growing Chinese threat to the island, such an arms acquisition policy makes good sense, since it behooves Taiwan's armed forces to obtain the most advanced weapon systems available as soon as possible. In this regards, arms imports or licensed-production arrangements are almost always easier, faster, and less expensive than indigenously developed options. Just as important, weapon systems available on the international market are usually much more capable and effective than anything Taiwan could produce on its own (e.g., F-16 vs. IDF).

Such dependencies on foreign technology may not necessarily be detrimental to Taiwan's security, at least not in the short-run. For example, there does not appear to be a problem with supply: Many major arms producers—particularly the United States and, to a lesser extent, France—have been only too glad to sell their most advanced weapon systems to Taiwan, especially given the dramatic drop (more than 50 percent) in the global arms market since the late 1980s. Buying off-the-shelf from overseas has also permitted Taiwan to obtain, in a relatively short span of time, some very sophisticated military equipment. Finally, there is a potentially important political-diplomatic byproduct arising out of buying foreign, especially U.S., weapon systems—that is, strengthening indirect military ties with major Western powers (a particularly important task for diplomatically isolated Taiwan).

Appearing too self-sufficient in defense procurement could mean that Taiwan might be perceived as strong enough to weather cross-Strait crises (e.g., the recent Chinese missile tests) on its own.⁵³

Nevertheless, there are risks to Taiwan becoming too reliant upon foreign arms suppliers. Arms sales to Taiwan can always be suspended, particularly if China were to put pressure on the seller. This, in fact, was precisely the case with France after it sold jet fighters and frigates to Taipei; trade and other relations with the PRC were interrupted until Paris agreed not to sell further “offensive” weapons to Taiwan (for example, France recently cancelled a deal to sell several hundred shoulder-fired Mistral surface-to-air missiles to Taiwan). The same pressures have been successfully applied by the mainland on major suppliers of conventionally powered submarines (e.g., Germany and the Netherlands) in an effort to stop potential sales to Taiwan.⁵⁴

Conclusions

The increase in tensions across the Taiwan Strait raises real concerns as to the potential for conflict between the two antagonists. There is growing interest in how a Chinese threat against Taiwan might manifest itself, and how Taiwan might be able to defend against this threat. In turn, these fears of a possible PRC-Taiwan military confrontation have focused renewed attention on cross-strait military capabilities.

Unfortunately, side-by-side assessments of current Chinese and Taiwanese defense resources—in this case, military spending and arms imports—are like comparing apples and oranges. For example, demonstrating that Chinese military expenditures are at least double those of Taiwan proves very little in and of itself. Even applying a purchasing power parity exchange rate cannot account for all the differences in the PLA and the ROC armed forces when it comes to such factors as soldiers’ standards of living, training, operations and maintenance, and the quality and effectiveness of equipment. Obviously, considerably more work needs to be done in obtaining more quantifiable data regarding military expenditures (particularly on the part of China). Just as important, however, we need to come up with better conceptual and methodological approaches as to why and in what regards

Chinese and Taiwanese defense expenditures are comparatively (and singularly) important.

It is also difficult to assess the relative successes of China and Taiwan when it comes to exploiting arms imports, since both countries take such widely differing approaches toward utilizing foreign military technology. In one sense, Taiwan appears to be making, at the moment, considerably more progress than the mainland in using arms imports to modernize its armed forces across-the-board. As a result, within five years the current force structure of the Taiwan armed forces will be almost entirely replaced or upgraded, mostly with equipment or technology purchased off-the-shelf from abroad.

On the other hand, because of its growing dependency upon arms imports, Taiwan's long-term military capabilities will increasingly hinge on Taipei's ability to preserve and expand its connections to foreign suppliers. For one thing, Taiwan must be able to maintain access to spare parts, maintenance, and training for its current and forthcoming crops of foreign weaponry. More importantly, it must also convince foreign suppliers to sell it new systems to meet emerging defense requirements (e.g., an anti-tactical ballistic missile defense or submarines for anti-blockade operations). Because neither of these relationships can be unreservedly guaranteed, Taiwan could be opening itself up to dangerous vulnerabilities.

China's situation with arms imports is more difficult to determine since it emphasizes "indigenizing" foreign military technology, i.e., utilizing this technology to improve or to help develop Chinese-designed weapon systems. This process is naturally going to be much more arduous and problematic, and it will depend considerably on the abilities of the Chinese to obtain the necessary technologies, to direct these technologies to the proper projects, and to oversee these projects through development to serial production. Given the many obstacles and setbacks that can arise at each step of this process, the success or failure of such efforts may not be known for several more years.

On the other hand, should it succeed in acquiring and indigenizing a sufficient amount of foreign advanced technologies, China's ability to develop and produce quite sophisticated weapons could be vastly improved. Correspondingly, the military effectiveness of the PLA would also be considerably increased. Furthermore, by gradually

obtaining the “know-why” as well as the know-how behind modern military technology, China’s military-industrial complex could eventually wean itself of its dependency on foreign technology. China would then possess a defense industrial base that could independently develop and produce its own advanced weapon systems. Overall, China’s strategy regarding military imports is more uncertain, but also more ominous should it succeed.

Looking ahead, it appears inevitable that the military situation across the Taiwan Strait will be increasingly characterized by the acquisition, deployment, and operation of advanced weapon systems and technologies. These systems and technologies could significantly affect the cross-Strait balance of power and perhaps even basic concepts of war-fighting, although precisely how cannot be determined at present. However the PRC-Taiwan military melodrama plays itself out, arms imports and foreign technologies will doubtless play a growing role.

Notes

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Chinese Military Hardware and Technology Acquisitions of Concern to Taiwan

by Bates Gill

Introduction

Conventional military hardware and technology acquisitions by the People's Republic of China (PRC) are points of great concern for Taiwan's security.¹ Of greatest relevance are the context within which mainland China's military hardware and technology acquisitions are formulated and implemented, with special consideration of aircraft and airborne systems, naval vessels, and ballistic and cruise missiles.

Three main conclusions can be drawn from an analysis of the PRC's efforts.

- China is slowly rationalizing its arms production and procurement policy, bringing greater focus to certain key capabilities and missions of special concern to Taiwan. This policy seeks to coordinate procurement from three sources: (1) selective upgrading and refitting of current inventory; (2) producing new indigenous systems; (3) importing complete systems off-the-shelf.
- Improvements in aircraft, ships, and missiles are—and will likely continue to be—assisted by Russian and Israeli inputs, as well as by some European sources. This assistance may help China to reach higher levels of operational capability more quickly.
- While China is improving its military capabilities through hardware and technology acquisitions, its range of potentially successful military action against Taiwan remains limited for the next 10 years to such activities as low-level military harassment and possibly stand-off missile attacks.

Background Themes to PRC Arms Acquisitions

Four main themes of direct relevance to China's arms acquisitions set out the context within which Chinese arms acquisitions concerning Taiwan are shaped and undertaken. These themes include changes in doctrine, acquisitions policies, the use of foreign sources, and an increasing tendency toward confrontation.

Doctrine

Since the early 1980s, China has moved through two key doctrinal shifts to emphasize a more active and forward defense posture. From the traditional concepts of "*People's War*" focusing on drawn-out, land-based, guerrilla-style wars of attrition, Chinese doctrine shifted to the slightly modified "*People's War under modern conditions*," and then to a more externally-oriented active defense concept of "*local war under high-tech conditions*" (*gao jishu tiaojian xia jubu zhanzheng*) in places around and immediately beyond China's borders.² Looking toward Taiwan, this doctrinal shift emphasizes more active operations against the island, from low-level intimidation, to the swift and decisive use of force, up to and including the invasion and occupation of Taiwan.

Acquisitions Policies

Doctrinal shifts have required a significant change in acquisitions policies, which increasingly stress the criticality of high technology, especially with regard to air and maritime assets. Some Chinese sources believe that discussions on the importance of high technology in warfare predate the 1991 Gulf War, possibly as early as the 1980s and the discussions of *People's War under modern conditions*. By the late 1980s, the concept of local war under high-tech conditions required acquisitions which contributed to flexibility, swiftness, mobility, concentration of fire-power, and the effective use of advanced weaponry to decide relatively brief and localized engagements. The decisive victory of the U.S.-led coalition forces over Iraq in 1991 further confirmed and intensified China's interest in the value of high technology in warfare.

The PLA's increased appreciation for high-technology has resulted in calls within the defense research and development (R&D), and production sectors for "more development, less production," and to "give priority to key projects." Chinese efforts in this regard initially

seemed to focus on hardware and equipment: e.g., electronic warfare systems, improved air and maritime platforms, anti-air defenses, cruise missiles. More recently, a greater appreciation for software, which provides the critical “knitting together” of hardware capabilities, has been reflected by the PLA’s increased interest in the “Revolution in Military Affairs” (RMA).³ This has placed growing emphasis on logistics, C⁴I (including space-based communications and global position systems), and new joint operational concepts. This appreciation and emphasis directly affects acquisition, defense R&D, and defense production policies and priorities. In turn, these developments affect Taiwan’s security as China seeks to upgrade its military, both conceptually and materially, to develop the capability to conduct military operations against the island.⁴

Foreign Sources

To close the gap between requirements and capabilities, Chinese arms acquisitions must rely increasingly on foreign sources for complete weapons systems and technologies. This will be tempered by a continuing policy of “independence and self-reliance” in defense R&D and acquisitions, and by rejecting the “worship of foreign things” and “fawning upon foreigners.”⁵ However, while official policy downplays the criticality of foreign inputs, the situation on the ground suggests differently. Current Chinese domestic procurement has dropped significantly since the mid-1980s, while foreign procurement over the same period has risen dramatically. Russia is by far the most important supplier of weapons and military technology to China, with significant inputs—especially concerning aerospace development—provided by Israel. European suppliers, which never completely quit China following the Tiananmen Square crisis, are slowly inching their way back as purveyors of weapons and military technology to China.⁶ Foreign inputs for certain systems in particular—cruise missiles, submarines, advanced fighter aircraft, and C⁴I systems—have a significant bearing on China’s ability to threaten Taiwan’s security. At the same time, pressure from Beijing constrains foreign supplies of weapons and technology to Taiwan.

Confrontation

Beginning in the early 1990s, and accelerating in 1995 and 1996, China took a more militarily confrontational stance toward Taiwan

than was the case previously. China's more bellicose attitude toward Taiwan parallels the island's efforts to raise its international profile and develop a more equal political status in its relationship with mainland China, as well as its efforts to significantly upgrade its military capability. China's training exercises over the past several years, the ballistic missile firings of 1995 and 1996, and Beijing's stepped up diplomatic efforts to deny greater international "space" to Taiwan are all indicative of its concerns and intentions with regard to Taiwan.

Together, these background developments may point to the beginnings of a more focused and rationalized arms acquisition and deployment process in China. This may be true particularly in credibly posing and sustaining the successful use of force to deter and prevent Taiwan from moving toward separation or independence from the mainland. However, these trends are in their earliest stages; China continues to have enormous difficulties to bring greater coherence throughout its weapons procurement and deployment cycle.

Acquisitions of Concern to Taiwan

Aircraft and Airborne Systems

Aircraft development and procurement plans reflect acquisition trends stressing quality over quantity, integration of foreign technologies and systems, and development of capabilities relevant to military engagement with Taiwan. Owing to the obsolescence of its air force, China will be forced to make drastic reductions in its massive military aircraft inventories between 1994 and 2005, perhaps by more than 50 per cent.⁷ At the same time, however, several Chinese aircraft upgrade and development programs will be underway. Most of these programs involve foreign participation, including the: J-8 upgrade, Su-27 purchase and production, possible development and production of the J-10 multi-role aircraft, the B-7 bomber, and the FC-1 fighter, efforts to develop an airborne early warning and control system, and the deployment of longer-range and more sophisticated air-to-air missiles. In each case China seeks to gain air superiority over potential adversaries, a critical factor for success in an engagement with Taiwan in particular. However, the number of programs alone—not to mention the technological difficulties which persistently plague Chinese military aircraft development—suggest that a clear program for future aircraft

procurement has yet to emerge in China.⁸

With regard to front-line aircraft Chinese procurement is likely to proceed in two phases. The first phase will include the purchase of off-the-shelf aircraft from Russia, coupled with the upgrading and development of older systems. The first 26 Su-27s were delivered in 1993 and were said to be operational in 1995; the second batch of 24 Su-27s, delivered to coincide with Boris Yeltsin's visit to China in April 1996, may be operational by 1998. Some reports, citing Taiwan sources, indicate that some maintenance and logistic problems already attend the deployment of the Su-27s.⁹

Limited production and upgrading will continue on variations of the J-8 aircraft, a Chinese version of the Ye-152 "Flipper" (a Soviet prototype which never reached serial production). The J-8 upgrades are likely to incorporate Russian Phazatron Zhuk multi-mode fire control radars, 150-200 of which were reportedly sold to China in 1995 or early 1996, and possibly the introduction of a derivative of the Russian RD-33 engine.¹⁰

With operational deployment of its modernized aircraft beginning between 2005 and 2010, the Chinese will probably focus in a second phase on a "high-low" technology mix: the licensed production at Shenyang of approximately 200 Su-27s from Russia, and the production of the so-called J-10 at Chengdu.

In a US\$2.2 billion deal reached in late 1995, the Chinese and Russians agreed to cooperate in the licensed production of the Su-27 in China. In the most optimistic scenario related to this deal, the first Su-27s will come off the production line in 1999, beginning at a relatively slow production rate of about 20 per year; these forecasts are probably not realistic, and it may not be until 2002 or later until Su-27 production begins in earnest.

The J-10 is expected to be a multi-role aircraft, developed to replace the J-7 fighter and Q-5 attack aircraft. The J-10 is allegedly in its prototype stage, but plans for test flights in 1996 did not materialize, once again calling into question the viability of this program. In drawings and in reported satellite photos, the J-10 is shown with canards and delta wings, a single engine, and is consistently said to show its Lavi pedigree.¹¹ In addition to assistance from Israel Aircraft Industries in the development of the J-10, Russian assistance may include radars (the

Phazatron Zhuk multi-mode fire control radar) and engines.

Thus, if development, production, and deployment proceeds smoothly—and Chinese experience has shown this to be a questionable assumption—the Chinese may be able to field between 200 and 300 Su-27s, plus a similar number of J-10s by 2010 or shortly thereafter. However, this would be a “best case” assumption by Chinese defense industrial planners. In addition, by 2010, these “fourth generation” aircraft made in China will remain one to two generations behind the state-of-the-art aircraft deployed by the United States, France, and possibly Russia.

These aircraft may be equipped with air-to-air missiles such as the Russian active-homing, medium-range AA-12 Adder; the semi-active, short-range AA-10 Alamo; the Chinese semi-active PL-9; and other indigenously developed air-to-air missiles. In addition, perhaps 200 Italian Alenia Aspide semi-active, medium-range air-to-air missiles were provided to China in the mid- to late-1980s as part of the A-5M made-for-export upgrade, and China continues to negotiate with the Italian firm on further purchases and licensed production of this missile.¹² Some of these missiles, if transferred to China, would provide the People’s Liberation Army (PLA) Air Force with medium-range, active-homing capabilities, a significant improvement for Chinese air power. These missiles would counter increasingly sophisticated Taiwanese air force capabilities such as the reportedly active-homing, medium-range Tien Chien (Sky Sword) II, and such foreign acquisitions as the French Mica active-homing, medium-range air-to-air missile, which will accompany the Mirage 2000-5 fighters imported from France.¹³

China has also taken important steps to improve its airborne early warning (AEW) capability. Analysts suggest this effort is primarily focused on Taiwan, as a means to monitor activities in the Taiwan Strait and to better protect and control mainland aircraft engaged in missions against the island. China’s current interest also probably stems from Taiwan’s purchase of the E-2T AEW aircraft from the United States. There were reports as early as mid-1990 that China was negotiating with the British firm GEC to purchase 16 airborne early warning radars, systems which were developed as part of the British Nimrod project cancelled in 1986. Industry analysts suggest that this program

was still under development in 1993 between GEC-Marconi and the Shaanxi Aircraft Company, producer of the Chinese Y-8 transport aircraft.¹⁴

However, the program may have taken a new direction, following visits to GEC-Marconi by Chinese military and military production officials in March 1996. Reports indicate that GEC-Marconi might provide the Argus AEW system, which by early 1996 may have already been test-flown on the Chinese Ilyushin Il-76 transport aircraft imported from Russia. This three-way deal—joining GEC-Marconi, Ilyushin, and the Chinese—would reportedly be worth approximately US\$250 million.¹⁵

With these reports of renewed interest in cooperation between GEC-Marconi and China, the British firm could be in line to provide avionics to the China-Pakistan-Russia FC-1 fighter program as well. Since the early 1990s, the Chinese are also said to be considering the purchase of Israeli Phalcon AEW system.¹⁶ In addition, in a deal separate from the Chinese AEW requirement, a report in August 1996 states that the British firm, Racal Electronics, will supply between 6-8 surveillance radars to the PLA Navy—possibly the Racal Searchwater system—employed by patrol aircraft to track submarines and other naval vessels.¹⁷

Other key aircraft procurement projects which have received attention in recent years include the FC-1 fighter and the H-7 bomber, though it is unclear as to their long-term status. The FC-1, while being touted as a new development, is in fact a follow-on to the failed Super-7 program between China Aerotechnology Import-Export Corporation (CATIC) and the Grumman Corporation that was abandoned in 1989. The Super-7 program was itself based on the Chinese F-7 (MIG-21 variant), making the FC-1 an upgraded version of this aircraft. The FC-1 program is reportedly a three-way cooperation venture joining Pakistan and Russia, with Chengdu Aircraft Corporation (CAC) as the Chinese partner. Pakistan is said to be interested in purchasing the aircraft and integrating Western—possibly Italian or British—avionics while the Russian contribution might be the engines. However, the program will have to await significant and confirmed orders from Pakistan. It is unclear whether the aircraft will be purchased by the PLA Air Force, and the FC-1 program may

conflict with the J-10 program also conducted by CAC.¹⁸

Similarly, the H-7 bomber program has been slow to develop, and may be superseded by the Su-27 and J-10 programs. Perhaps only 20 H-7s will be eventually produced, owing in part to the lack of an adequate power plant, which suppresses domestic and foreign demand. A Hong Kong report in late 1995 stated that Xian Aircraft Corporation is producing the H-7 at a rate of about two per year, and that it employs a Chinese version of the British Spey 202 engine.¹⁹

Also, China has clearly signalled its intention to swiftly develop its aerospace industry, including the production of military aircraft, through the commitment of resources to such long-range programs as the "Take Off" plan, announced in 1994.²⁰ Most of the major international aerospace firms produce parts, and in some cases assemble aircraft, in China. Rapid advances in China's commercial aerospace industry may aid its military systems, and some concerns have arisen that production technologies for the commercial aircraft are transferred for use in the development of military aircraft.²¹

Naval Vessels

As part of their active defense posture, and in anticipation of the possible need to conduct maritime operations against Taiwan, the Chinese have initiated a number of key naval procurement projects since the mid- to late-1980s. China's seems intent on being able to successfully operate an offshore defense within the so-called "first island chain" off China's coast by the early part of the next decade. This island chain roughly extends from Japan southward to encompass Taiwan, the Philippines, and the South China Sea. In the first two decades of the next century, Chinese naval strategy expects to extend its active naval operations to the "second island chain", an area roughly delineated by the westernmost Aleutian islands in the north; extending south to include the Marianas; Papua New Guinea; and the east coast of Australia. By mid-21st century, China's long-term naval strategy calls for the achievement of major sea-power status and true "blue water" capability.²²

For the present, these developments will most immediately affect the security of Taiwan which falls within the first island chain, and represents an obvious target and focus of future Chinese naval opera-

tions. Chinese naval acquisition programs supporting this strategy, like aircraft procurement, will include a mix of upgrades, new indigenous systems, and foreign imports. The program will include streamlining and upgrading their submarine fleet, the production and deployment of new classes of frigates, destroyers, and landing and logistics ships, new purchases of Russian Sovremennyy-class destroyers, and continuing discussions on the possible purchase of an aircraft carrier. These programs will also include significant foreign inputs as part of their development. However, it should be noted that despite these new and more focused acquisition programs, Chinese fleets will take many years to overcome basic weaknesses in several key areas: seaworthiness, defense systems, logistics and at-sea replenishment, large amphibious assault operations, and combined operations with other services.

An oft-cited scenario has China imposing a submarine blockade or harassment campaign against Taiwan. Taiwan deploys only two submarines at present, has difficulty in procuring more from foreign sources, and is only in the initial stages of rapidly improving anti-submarine warfare capability. Thus, China may enjoy a near-term advantage against Taiwan as its naval procurement program appears to include improvements in submarine capabilities both through indigenous and foreign acquisitions. This program appears to consist of three phases. First, the Chinese will selectively upgrade some Romeos while working to replace its ageing Romeo class submarines. According to a Taiwan-based report, the Chinese have decommissioned some 50 Romeo class submarines over the period 1993-95, while refurbishing and maintaining a limited operational capability of approximately 20-30 submarines in this class. Some of the refurbished Romeo class submarines are believed to be fitted with French radar systems.²³ These refurbished submarines will be slowly replaced by Ming, Song, and Kilo class submarines over the next 5-10 years.

Second, serial production of replacements for the Romeo class submarine continues. The Chinese produced some 12 or 13 Ming class patrol submarines until the program's suspension in the mid-1990s.²⁴ Reports suggest that China in 1994 launched a new diesel-electric patrol submarine—the first new design to come out of Chinese shipyards in 20 years—dubbed the Wuhan-C by some Western analysts. *Jane's* designates the boat as the Song class, and notes its resemblance

to the French Agosta class submarine. This new class is viewed as a possible follow-on to the Ming class submarine, and is probably in serial production at the rate of about one boat per year. This pace may pick up as the Songs are expected to eventually replace the older Romeos and Mings as the core of China's submarine fleet.

Third, the top-drawer of China's submarine modernization program features four Kilo class submarines ordered from Russia in mid-1993; two were delivered in 1995, and two more are expected for delivery in 1997-98. It is possible that more Kilos will be ordered—some reports in 1995 suggested that China would procure up to 22 Kilos.²⁵ However at approximately US\$250 million a piece, such a large purchase would seem prohibitively expensive. It is more likely that China is conducting negotiations to produce these boats indigenously under license, with future off-the-shelf purchases linked to the transfer of production technologies, as in the case of the Su-27 deal. The Kilo class submarines, once operational, will add a significant new dimension to China's naval operations: the Kilos run far more quietly and possess more advanced communications and weapons systems than China's other patrol submarines such as the Romeo or Ming class. China's intention to procure more submarine production expertise and technologies is evident from the presence of Russian and Israeli experts working directly with the Chinese to develop new submarine designs.²⁶

The core of China's future surface combatant fleet will be new Luhu class destroyers and Jiangwei class frigates. These ships are developed as improvements over the older Lüda class destroyer and Jianghu class frigates. However, the replacement rate is relatively slow, and refurbishment will be required on many of the older class ships. The older vessels, which were not originally outfitted for extensive at-sea operations, will require substantial refitting for defensive systems. For example, some of the older Lüda class have been refurbished to include an anti-submarine warfare helicopter, more advanced anti-ship and anti-aircraft missiles, and possibly anti-submarine missiles. The new Luhu class consists of two operational vessels (complementing 16 Lüda class destroyers), and a third will be commissioned by 1999. Construction of the third Luhu destroyer was delayed by the suspended shipment of General Electric LM2500 gas turbines which were to be part of the power plant for the vessel. The Luhu class also deploys a

number of foreign weapons and sub-systems, including Thomson-CSF anti-aircraft missiles and fire control systems, Racal navigation systems, and license-built Z-9A helicopters (based on the French AS-365N Dauphin II).

The Jiangwei frigate program began in 1988 and currently consists of four operational vessels (complementing approximately 30 frigates of the Jianghu design), with serial production expected to continue. Older Jianghu frigates are also being refurbished with anti-aircraft missiles to replace anti-aircraft guns and the fitting of C-801 or C-802 anti-ship missiles; one Jianghu has been refitted with a deck to accommodate a Z-9A helicopter. The newer Jiangwei frigates in serial production will all carry anti-aircraft missiles, C-801 or C-802 anti-ship missiles, and one Z-9A helicopter.

Perhaps in part to make up for the weaknesses of their indigenously-produced naval vessels, and owing to suspended Luhu production, the Chinese in late 1996 went forward with the purchase of two Sovremennyy class destroyers from Russia, at an estimated cost of US\$800 million. These ships, larger and more powerfully armed than the Luhus of China's fleet, would be most effective in the anti-surface role, as they carry up to 24 surface-to-surface missiles (SSMs), which, in the Russian version, have a range of 150 kilometers. If included in the deal, these would be among the most powerful SSMs that China has deployed to date, and present a significant improvement in China's ability to address maritime threats and concerns. It is unclear whether the Russians will provide destroyers already under construction in St. Petersburg, or whether they would be newly-built for the Chinese. According to reports, it would not be until 2000 at the earliest that the Sovremennyy destroyers currently under construction could be delivered to China.²⁷

In addition to these large warships, China has also emphasized the production and deployment of ships to more capably support amphibious and extended at-sea operations, including landing ships and replenishment vessels. Such vessels would be essential for China to conduct wartime naval operations against Taiwan or to successfully land troops on Taiwan. Most of China's amphibious and replenishment vessels are severely limited due to their age and relatively small size, which constrains lift and open-ocean capabilities.

Since the early 1980s, China has initiated several new production programs for landing and supply ships.²⁸ The first of these is the production and deployment of new landing ships, including seven Yukan class, three Yuting class, nine Qionsha class, and one Yudeng class. The Yukan class ships were produced between 1980 and 1995, with Yuting class ships beginning their serial production in 1992. The Yukan and Yuting class are the largest landing ships in China, each capable of transporting approximately 200 soldiers, 10 armored vehicles, as well as smaller beach-landing vessels. The two classes are similar in structure, though the newer Yuting class has more lift capacity and can carry two helicopters. Serial production of the Yuting class continues. The Qionsha class personnel attack transports have been produced in China since 1980, and are designed to transport relatively large numbers of troops—about 400. Two of these ships have been converted to hospital vessels, another reflection of China's intentions to improve at-sea warfighting capabilities.

China's at-sea supply and replenishment capabilities are similarly constrained by age, size, and limited numbers. The largest supply ships are the two Dayun class, which were completed in the early 1990s. The most capable and largest at-sea replenishment ships are the two Fuqing class, which became operational in 1979. China has approximately 20-25 other small supply and replenishment ships, but they are probably not capable of extended open-ocean operations.

In spite of these new programs, China's capabilities in amphibious lift and replenishment remain quite limited, and are not capable of supporting and sustaining wartime operations and invasion force landings against Taiwan. However, China's likely focus on the production of more landing ships and replenishment vessels suggests a decision to improve its amphibious and at-sea operations.

Chinese acquisition of an aircraft carrier would have significant security implications for Taiwan. However, most Chinese and foreign analysts agree that the acquisition and deployment of a carrier battle group—if it will happen at all—is a far-off development. With the purchase of the Sovremennyy class destroyers, in addition to the Kilo class submarines—the two deals amounting to between US\$1.8 and 2.0 billion—China's foreign naval acquisition budget is tightly stretched for the time being. Defense analysts reported in 1995 that the Spanish

shipbuilding firm, Bazan, offered China two designs for small aircraft carriers, similar to the carrier Bazan will supply to Thailand for an estimated US\$358 million. A visit to China by the chairman of Bazan in January 1996, in which he made presentations on the carrier, further fuelled speculation about this potential deal.²⁹ While the cost of the carrier would be relatively cheap, the Chinese are likely to continue to develop doctrinal and operational capacities to sustain an aircraft carrier group before moving seriously forward on such a purchase.³⁰ *Jane's* reports that at an equipment exhibition in 1995, the Chinese displayed a floating model of a carrier said to resemble an older U.S. design.³¹ This revelation supports a contention that China hopes to eventually produce an aircraft carrier of its own, seeking foreign expertise to do so, but not purchasing one directly from a foreign supplier. If this is the intention, China will probably not develop and operationally deploy a carrier battle group until well after 2010.

Ballistic and Cruise Missiles

The test-firing of Chinese DF-15 (M-9) ballistic missiles in waters near Taiwan in July-August 1995 and again in March 1996 gained international attention and opprobrium, but succeeded in sending strong political signals to domestic and foreign audiences about China's resolve on issues related to Taiwan. However, from a technical and doctrinal point of view, the results of the tests were less clear. Reports differed as to the accuracy of tests, and many analysts questioned the military usefulness of launching conventionally-armed relatively inaccurate ballistic missiles against strategic targets on Taiwan. Nevertheless, production, procurement and deployment of the M-family of missiles can be expected to continue in China.

Because of the technical and doctrinal drawbacks to its conventionally-armed ballistic missiles, China has in recent years stepped up its efforts to improve its cruise missile technologies and capabilities. When compared to ballistic missiles, cruise missiles provide a more flexible set of delivery options, a wider set of potential targets, greater accuracy and are more difficult to detect and track. "Guided missile warfare" is taking on a greater importance in PLA writings, and is viewed by many officers within the Chinese military as a critical addition to the array of threats which the mainland can pose against

Taiwan.³² Some Chinese analysts in the United States have made the explicit comment that the development of more advanced cruise missiles—such as the C-802—is intended for pinpoint attacks against targets in Taiwan.³³ However, the C-802 was developed as an anti-ship missile. To date, the Chinese have yet to deploy dedicated, long-range land-attack cruise missiles.

Much work has been done in China already in the development of cruise missiles, and a number of systems were certified in the 1980s, and are presently produced and deployed. These missiles can be organized into three rough categories.³⁴ In the first category, the HY-2 series, are perhaps most familiar as the subsonic Silkworm missile, a derivative of the Soviet Styx missiles series, which began development in China in 1965. Subsequent improvements were made to the system, such as introducing infrared-homing and radio altimeter (HY-2A and HY-2AII, certified in 1982 and 1985) and active radar homing, improved radio altimeter (HY-2B, certified in 1989). Various versions of this series are in service with the PLA, arming coastal batteries as well as older naval vessels such as the Lüda I and II destroyers, Jianghu I and II frigates, and Huangfen fast attack craft. The YJ-6 (export name, C-601; certified in 1986) is the air-launched version of the HY-2, and arms older aircraft such as the H-6 bomber.

The second category, the high subsonic YJ-8 missiles (sometimes known as the HY-4 series), marks a number of significant advances over the HY-2 series. The YJ-8 missiles (export name, C-801 and C-802; certified in late 1980s) are much lighter, operate with solid fuel boosters and solid fuel motors for the cruise phase, fly at a lower altitude, and employ frequency-hopping radar to combat electronic countermeasures. The YJ-8 was also developed for launch from aircraft, ships, coastal batteries and surfaced submarines. This missile class arms the newer Chinese naval vessels, such as the current production Jiangwei frigates, Luhu destroyers, newer versions of the Han- and refurbished versions of the Romeo-class submarines, and Houxin and Houjian fast attack craft; the older Hainan class fast attack craft and the Q-5 attack aircraft can apparently be fitted with this missile as well. The H-7 bomber, possibly in limited production, would probably be armed with this series missile. The YJ-8A (C-802) employs a turbojet engine (possibly the French Microturbo TRI 60) for an extended-range version

of the YJ-8, and is capable of reaching targets between 95 and 135 kilometers (approximately 60 to 80 miles) away.³⁵ The more-advanced YJ-8A missile will probably continue in production for both domestic use and export, and will arm Chinese current-production warships and attack aircraft.³⁶

A third category of cruise missiles is the supersonic HY-3 series. The two basic HY-3 series models are known by their export names, the C-301 and the C-101. To reach supersonic speeds, these Chinese missiles required powerful ramjets, work which began as early as 1965 but which was not fully successful in operational missiles until the mid-to-late 1980s. According to the Chinese, both missiles are capable of reaching a range of up to 180 kilometers (approximately 110 miles), and can travel at speeds up to Mach 2.0. The C-101 is a lighter version, and can be fired from both ships and aircraft; the heavier and larger C-301 is either shore-based or fired from ships, and, along with the C-802, is a likely candidate for development as a more powerful land-attack missile. Flying at supersonic terminal velocities, and employing active terminal homing, these missiles are difficult to intercept. In the early 1990s, the HY-3 series was one of only two supersonic anti-ship missile programs under development in the world.³⁷

While the Chinese have developed and fielded a number of cruise missiles, development apparently continues to improve propulsion/range and accuracy of such weapons. For example, a cruise missile assembly and testing building was established in late 1993 outside Beijing by the No. 8359 Research Institute under the China National Aerospace Industry Corporation.³⁸ In February 1996, Northwest Industrial University announced that it had developed a new "mini-turbojet aircraft engine" with applications for cruise missiles.³⁹ Numerous reports over the past several years suggest that China is making limited improvements in the image-generation and radar capabilities for cruise missiles as well.

The Chinese are also looking abroad for technologies to improve missile propulsion capabilities. The possible employment of the French TRI 60 is one example. In February 1996, Russian sources reported that three Chinese officials of the Shanghai Machine-Building Institute were arrested and expelled by the Ukrainian Security Service for seeking to illegally acquire documents related to missile engine

designs.⁴⁰ Fears were also expressed by a number of observers that the proposed transfer of production technologies relevant to the Allied-Signal TFE731-2A-2A would enhance Chinese cruise missile development capabilities. At the end of 1995, AlliedSignal had transferred 40 of these engines to China for use in the Sino-Pakistani K-8 jet trainer, and had agreed to ship 18 more. However, the transfer of production technologies was suspended.⁴¹ Sales of the C-802 missiles may provide needed funding to help finance further development of China's cruise missiles.

A 1994 document purporting to represent a Chinese "wish-list" of Russian systems shows China's desire to integrate Russian assistance in the design, propulsion system, and guidance systems, including links to satellite sensors and radars. There is little open-source information to confirm the extent of Russian cooperation in these areas, but the Chinese intention to make advances on cruise missile technologies and systems is clear. China's approach to its cruise missile development is akin to its procurement policy for aircraft and naval vessels, in that it seeks to coordinate upgrades of current inventory along with indigenous advances and foreign purchases. This path has led to some significant improvements for Chinese cruise missiles in recent years. An improved cruise missile would allow China to pose a more credible naval threat against Taiwan and other naval forces in the region, and, with extended ranges and improved accuracy, would allow for more precise targeting of sites on Taiwan.

Looking Ahead

Three main conclusions can be drawn from the analysis presented here. First, China appears to be in the early stages of a slow process to rationalize its arms production and procurement policy, bringing greater focus to certain key capabilities and missions of special concern to Taiwan. At present and for at least the next 10 years, these acquisition priorities do not reflect a capability to launch a successful, large-scale, conventional invasion against Taiwan. Rather, acquisition priorities reflect a focus on capabilities on the lower-end of the military escalation ladder, including low-level military intimidation and maritime harassment and possibly limited precision stand-off missile

attacks. China will augment its capabilities in these areas through a near-term procurement program which steadily improves its current air and naval assets while also devoting resources toward the development and deployment of ballistic and cruise missiles. Looking beyond 2005, Chinese procurement plans may place it in a position to begin considering more ambitious military undertakings which require air superiority, coordinated naval-air operations, and large amphibious landings.

Second, the pace of Chinese progress toward these procurement objectives will be determined in large measure by continued access to foreign sources of weapons and technology. Barring major upheavals in Chinese foreign policy, it is likely that China's procurement relations with foreign suppliers will increase and intensify. Russia and Israel will be the most important suppliers, but European suppliers will also contribute to Chinese defense development to an increasing extent. In addition, as commercial technologies increasingly have military applications, China can be expected to take advantage of its booming import market to slowly but steadily improve its military capabilities where it can.⁴²

Third, it is important to recognize that in spite of these developments regarding China's military capabilities and intentions toward Taiwan, a number of obstacles will impede China's progress. The most important concerns China's ability to "knit together" its newly-developed capabilities in a more effective way. This is only partially a procurement question. In addition to acquiring and fielding critical technologies and systems for command, control and communications, China must also overcome decades of traditional military thinking to forge and operationalize new concepts about conducting modern warfare. In a lengthy 1993 discussion of modern warfare under high-tech conditions, Chinese military analysts recognized this problem in concluding that:

[M]aterial obstacles are not entirely insurmountable. The most terrible obstacle lies, more often than not, in one's own concept. . . . As soon as one's ideological concepts lag behind they become stumbling blocks to the creation of new tactics. Obviously, without overcoming oneself in terms of an ideological concept, overcoming the enemy is only a wish.

In their words, "high-tech warfare has set . . . a severe historical requirement" for China.⁴³

In addition, numerous practical questions persist concerning China's defense industrial base, and its ability to meet the challenge of closing the gap between needs and capabilities. Problems of technology absorption and management, linking R&D with production, amassing necessary financial and technical resources, and declining production orders and excess capacity remain difficult issues. Rationalizing the procurement process, and rejuvenating the organization and industrial capacity of the hulking and backward Chinese defense industrial base are also monumental tasks that will not be easily solved.⁴⁴ Chinese leaders and defense industrial planners are certainly aware of these and other related problems, and are seeking ways to overcome them. But the country is in the earliest stages of what will be a painful and difficult process to extensively modernize its defense production and procurement processes.

In sum, there appear to be some fundamental changes in the quality of Chinese military hardware and technology acquisition policy. These changes feature a concern to focus on a few key projects and capabilities, to rely to a greater extent on foreign assistance and inputs, and to upgrade certain platforms while seeking to develop and deploy new and more advanced systems. Significant are the recent, more open, and extensive reliance on foreign systems for upgrading and off-the-shelf purchases, and indications that procurement decisions are taken with a looming confrontation with Taiwan in mind. But, the Chinese process of procurement, and its translation to operational capability, will be slow at best and constrained to a large degree by conceptual, technological, and financial factors.

Notes

1. The studies in this volume by Jencks, Huang and Bitzinger will address the cross-Straits balance-of-power issues more directly. For more detail on these points, see also Richard A. Bitzinger and Bates Gill, *Gearing Up for High-Tech Warfare?: Chinese and Taiwanese Defense Modernization and Implications for Military Confrontation Across the Taiwan Strait, 1995-2005* (Washington, D.C.: Center for Strategic and Budgetary Assessments, February 1996). On arms build-ups between China and its neighbors, see Bates Gill, "Chinese Military Modernization and Arms Proliferation in the Asia-Pacific" (Paper delivered at the conference on Chinese Security Policy and the Future of Asia, Honolulu, Hawaii, 25-29 June 1996).
2. Several excellent studies are available on this shift in Chinese military doctrine. See, for example, Paul H. B. Godwin, "From Continent to Periphery: PLA Doctrine, Strategy and Capabilities towards 2000", *China Quarterly* (June 1996); Yao Yanzhu, "The Evolution of Military Doctrine of the Chinese PLA from 1985 to 1995", *Korean Journal of Defense Analysis* (Winter 1995): pp. 57-80; You Ji, "High-tech Shift for China's Military", *Asian Defence Journal* (September 1995): pp. 4-10; Milton Liao Wen-chung, "China is Leaping to the Blue Waters" (Paper delivered at the Sixth Annual People's Liberation Army Conference, Coolfont, West Virginia, 9-11 June 1995); Alexander Chieh-cheng Huang, "The Chinese Navy's Offshore Active Defense Strategy", *Naval War College Review* (Summer 1994): pp. 7-32; Shulong Chu, "The PRC Girds for Limited High-Tech War", *Orbis* (Spring 1994): pp. 177-191; Weixing Hu, "Beijing's New Thinking on Security Strategy" *Journal of Contemporary China* (Summer 1993): pp. 50-65. One of the best open-source studies on Chinese doctrinal shifts in reaction to Desert Storm is Harlan W. Jencks, "Chinese Evaluations of 'Desert Storm': Implications for PRC Security", *Journal of East Asian Affairs* (Winter/Spring 1992): pp. 447-77. Nevertheless, older conceptions of People's War continue to persist in some high-ranking military circles. For example, see the comments of 8 January 1996 by Chief of the General Staff Fu Quanyou stressing the continued relevance of the People's War concept, the importance of man over weapons, and the critical roles to be played in warfare by politically reliable militia, reservists, and masses. *Liberation Army Daily*, cited in *PLA Activities Report* (January 1996): pp. 28-29.
3. Chinese discussions of the importance of high-tech weaponry and the RMA include Zhou Li and Bai Lihong, "Information Warfare Poses Problems", *Liberation Army Daily*, in Foreign Broadcast Information Service (FBIS), *Daily Report: China* (22 January 1996): pp. 34-35; Shen Weiguang,

"Focus on Contemporary World Military Revolution—Introduction to Research in Information Warfare", *Liberation Army Daily*, in *FBIS Daily Report: China* (13 December 1995): pp. 22-29; Ding Henggao, "New Defense S&T Strategy to Emphasize Technology Transfer to Civilian Use", *Chinese Military Studies*, in *FBIS Daily Report: China* (7 December 1995): pp. 35-41; Major General Wang Pufeng, "Meeting the Challenge of Information Warfare", *Chinese Military Science*, in *FBIS Daily Report: China* (6 July 1995): pp. 29-33; Xiang Wang, "Xiandai junshi keji fazhan yu junzhuanmin: guofang kegong wei Huai Guomo fuzhuren fangtanlu" ["Development of modern defense technology and defense conversion: Interview with Huai Guomo, Vice-Minister of the Commission of Science, Technology and Industry for National Defense"], *Xiandai Junshi [Commilit]* (May 1993): pp. 4-7. See also the conferences and meetings cited in *Liberation Army Daily*, 2 January 1996, cited in *PLA Activities Report* (January 1996): pp. 27-28; *Liberation Army Daily*, 26 December 1995, cited in *PLA Activities Report* (December 1995): p. 25; *Liberation Army Daily*, 12 December 1995, cited in *PLA Activities Report* (December 1995): pp. 24-25; *Liberation Army Daily*, 29 October 1995, cited in *PLA Activities Report* (October 1995): pp. 26-27; "'Military Forum Column-sponsored' Pen Meeting on Tactical Studies", *Liberation Army Daily*, in *FBIS Daily Report: China* (2 July 1993): 22-27. The study of China and the RMA by non-Chinese is in its earliest stages. An initial effort in this field is Bates Gill and Lonnie Henley, *China and the Revolution in Military Affairs* (Carlisle Barracks, Pennsylvania: U.S. Army War College, Strategic Studies Institute, 1996). Michael Pillsbury, ed., *Chinese Views of Future Warfare* (Washington, D.C., National Defense University Press, 1997) offers extensive writings by Chinese writers on these issues.

4. A more detailed discussion of Chinese defense modernization and its implications for Taiwan security is developed in Richard A. Bitzinger and Bates Gill, *Gearing Up for High-Tech Warfare?: Chinese and Taiwanese Defense Modernization and Implications for Military Confrontation Across the Taiwan Strait, 1995-2005* (Washington, D.C.: Center for Strategic and Budgetary Assessments, February 1996).

5. See the comments by Jie Lixuan (probably a pen name for a group of writers), in *Liberation Army Daily*, 15 April 1996, cited in *PLA Activities Report* (April 1996): pp. 3-4; Liu Huaqing, *Liberation Army Daily*, 6 August 1993, cited in "Liu Huaqing writes on modernization", *FBIS Daily Report: China* (18 August 1993): p. 19.

6. On Chinese arms and military technology imports, see Bates Gill and Taeho Kim, *China's Arms Acquisitions from Abroad: A Quest for "Superb and Secret Weapons"* (Oxford: Oxford University Press, 1995).

7. A RAND study predicts that Chinese inventory of J-6, J-7, J-8, Q-5, Su-27,

and H-7 aircraft will drop from a total of 4,297 to 2,344 units between 1994 to 2005. Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (Santa Monica: RAND, 1995), p. 163, Table 5.

8. See also the review and critical assessment of Chinese military aircraft programs in Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (Santa Monica: RAND, 1995), pp. 135-79.

9. Andrey Bagrov, "Each Propeller Reeks of Scandal", *Kommersant Daily*, in *FBIS Daily Report: Central Eurasia* (19 July 1996): p. 20-21; John Zeng, "The new Sino-Russian partnership: SU-27s the icing on the cake", *Asia-Pacific Defence Reporter* (May-June 1996): p. 12-13; David A. Fulghum, "China buys Su-27 rights from Russia", *Aviation Week & Space Technology* (12 February 1996): p. 60.

10. David A. Fulghum, "China buys Su-27 rights from Russia", *Aviation Week & Space Technology* (12 February 1996): p. 60; "Russian radars for Chinese fighters", *Jane's International Defense Review* (January 1996): p. 10; Paul Lewis, "Russia helps China upgrade F-8", *Flight International* (18-24 October 1995): p. 25.

11. On the development of the J-10, see "Russians pursue engine and radar on Chinese F-10 fighter", *Flight International* (22-28 November 1995): p. 5; David A. Fulghum, "New Chinese fighter nears prototyping", *Aviation Week & Space Technology* (13 March 1995): pp. 26-27; Jim Mann, "Israeli sale of arms technology to China irks U.S.", *International Herald Tribune*, 29 December 1994; David Barrie, "Chinese tonic", *Flight International* (9-15 November 1994): p. 16; "Israel co-operates with China on secret fighter", *Flight International* (2-8 November 1994): p. 4.

12. "China launches new SAM system", *Jane's Defence Weekly* (1 July 1995): p. 23; "Aspide", *DMS Market Intelligence Report: Missile Forecast* (April 1993): pp. 8-9.

13. Air-to-air missiles with semi-active homing are guided to their targets by an outside source, usually the pilot who fires the missile. Air-to-air missiles with the more sophisticated "active homing" have their own radar seekers which guide the missile to the target, allowing the pilot to "launch and leave" or turn to other targets.

14. Mark Lambert, ed., *Jane's All the World's Aircraft, 1993-94* (Coulson, Surrey: Jane's Information Group, 1993), p. 54.

15. Charles Bickers, "UK radar will equip Chinese AEW aircraft", *Jane's Defence Weekly* (24 April 1996): p. 3; Jason Glashow and Vivek Raghuvanshi, "China Seeks AEW To Guard Su-27s", *Defense News* (18-24 March 1996): p. 1;

- "China looking at Phalcon", *Air Forces Monthly* (January 1996): p. 11.
16. "China seeks Phalcon?", *Asian Defence Journal* (January 1996): p. 73; "China looking at Phalcon", *Air Forces Monthly* (January 1996): p. 11; Prasun Sengupta, "China expands air forces", *Military Technology* (August 1992): p. 50; Keith Jacobs, "China's military modernization and the South China Sea", *Jane's Intelligence Review* (June 1992): p. 281.
17. "Chinese military to buy radars from Racal", *Interavia Airletter* (7 August 1996): p. 5; Jason Glashow and Vivek Raghuvanshi, "China Seeks AEW To Guard Su-27s", *Defense News* (18-24 March 1996): p. 1.
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19. On the H-7, see *Wide Angle* report cited in *DSTI Monthly Report* (November 1995): pp. 5-6; Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (Santa Monica: RAND, 1995), pp. 151-52.
20. See for example, Wang Zhongqiang, "China's aero-industry hits the road", *Interavia* (June 1995): pp. 17-20; "China to Upgrade Aviation Industry", *International Herald Tribune*, 3 October 1994; Zhu Yuli, "China's Aviation Industry Spreads Its Wings", *Beijing Review* (28 March-3 April 1994): pp. 8-11.
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23. Stuart L. Slade, "New Variant of Chinese SSNs Revealed", *World Aerospace and Defense Intelligence* (8 October 1993): p. 17.
24. Lien-ho Pao report in *FBIS Daily Report: East Asia* (9 February 1996): pp. 6-7.
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27. "China expands reach with Russian destroyers", *Jane's Defence Weekly*, 15 January 1997), p. 5.
28. Drawn from Richard Sharpe, ed., *Jane's Fighting Ships 1996-97* (Coulsdon, Surrey: Jane's Information Group, 1996), pp. 129-34.
29. "China gains presentation on Spanish aircraft carrier", *Asian Defence Journal* (March 1996): p. 84.
30. David White, "Spanish yard may build aircraft carrier for China", *Financial Times*, 22 January 1996, p. 4; Joris Janssen Lok and Robert Karniol, "Spain offers carrier designs to Chinese", *Jane's Defence Weekly*, 18 February 1995, p. 8.
31. Richard Sharpe, ed., *Jane's Fighting Ships, 1996-97* (Coulsdon, Surrey: Jane's Information Group, 1996), p. 117.
32. Xu Chuangjie, *Liberation Army Daily*, cited in *PLA Activities Report* (January 1996): p. 28; Huang Jianeng, *Zhanshi Bao*, cited in *PLA Activities Report* (January 1996): p. 29; personal communication with Hua Di, Stanford University.
33. See Jason Glashow and Theresa Hitchens, "China Speeds Development of Missile with Taiwan Range", *Defense News* (4-10 March 1996): p. 1.
34. Discussion of Chinese cruise missiles drawn from Xie Guang, et al., eds., *Dangdai Zhongguo de Guofang Keji Shiye* [Modern China's Science and Technological Undertakings of National Defence], vol. 2 (Beijing: Dangdai Zhongguo Chubanshe, 1992), pp. 66-99.
35. Personal communication with Hua Di, Stanford University. The Microturbo TRI 60 is a simple, low-maintenance engine for use in unmanned cruise-type vehicles, and is employed by British, Swedish, French and US forces for anti-ship missiles or target drones. See *Jane's All the World's Aircraft, 1987-88* (Coulsdon, Surrey: Jane's Information Group, 1997), p. 895.
36. The C-802 has been exported to Iran, and may go into licensed production there. "China helping Iranian missile developments", *Jane's Defence Weekly* (17 July 1996): p. 13; Barbara Starr, "Iran adds new threat with cruise missile test", *Jane's Defence Weekly* (7 February 1996): p. 14; "Naval Missile Tested by Iran", *International Herald Tribune*, 31 January 1996.
37. On the C-101 and C-301 see also Duncan Lennox, "China's New

- Supersonic Anti-ship Missile”, *Jane’s Intelligence Review* (November 1992): p. 512.
38. *China Space News* cited in *DSTI Monthly Report* (November 1993): p. 8.
 39. *China Aviation News* cited in *DSTI Monthly Report* (February 1996): p. 6; “China develops turbojet”, *Financial Times*, 7 February 1996.
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 41. “Technology sharing ban”, *Jane’s Defence Weekly* (18 November 1995): p. 15;
 42. Groups closely related to the Chinese defense industrial base—such as China Aviation Suppliers Corporation, China National Machinery Import and Export Corporation, China Norton Industries Corporation, and China National Aviation Technology Import and Export Corporation—ranked among China’s 20 largest trading firms in the mid-1990s. “The 20 Top Largest Import and Export Firms in 1994”, *Beijing Review* (10-16 July 1995): p. 16.
 43. Yang Wei, Zhang Guoyu, Guo Zhengping, and Hu Siyuan, “‘Military Forum Column-Sponsored’ Pen Meeting on Tactical Studies”, *Liberation Army Daily*, in *FBIS Daily Report: China* (2 July 1993): pp. 23-24, 27.
 44. On the current difficult state of the Chinese defense industrial base, see John Frankenstein and Bates Gill, “Current and Future Challenges Facing Chinese Defense Industries”, *China Quarterly*, no. 146 (June 1996); John Frankenstein, “The People’s Republic of China: arms production, industrial strategy and problems of history”, in Herbert Wulf, ed., *Arms Industry Limited* (Oxford: Oxford University Press, 1993); Mel Gurtov, “Swords into Market Shares: China’s Conversion of Military Industry to Civilian Production”, *China Quarterly* (June 1993); Eric Hyer, “China’s Arms Merchants: Profits in Command”, *China Quarterly* (December 1992); Paul Humes Folta, *From Swords to Plowshares? Defense Industry Reform in the PRC* (Boulder: Westview Press, 1992).

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Wild Speculations on the Military Balance in the Taiwan Strait

by Harlan W. Jencks

Introduction

New tactics and weapons may radically change the various military scenarios in the Strait.¹ A high-tech simulation of various Taiwan Strait scenarios at the Naval War College in the spring of 1996 was a step toward envisioning these changes.

To appreciate the coming changes a modest critique of the assumptions and stipulations made in earlier studies is in order. And, a distinction between “order of battle” and “bean-counting” is needed before considering the “conventional wisdom scenarios,” and offering a plausible nuclear scenario.

Assumptions and Stipulations

Any study or simulation of conflict in the Strait must begin with assumptions and stipulations. A valid study will explicitly state its assumptions; a less valid one will just assume; a really poor one will assume unconsciously. Assumptions and stipulations largely predetermine the outcome. It is necessary to make assumptions about questions which today range from the simply uncertain to the outright unknowable. One assumption is that the political system of the People’s Republic of China (PRC) will not change fundamentally in the next decade or so. Some additional questions are immediately relevant to the future balance of power in the Strait:

(1) On May 21, 1996, U.S. Defense Secretary William Perry told reporters that, “We are aware that the Chinese have requested some components of SS-18 [ICBM] technology” from Russia and possibly Ukraine.² Will they get, and successfully apply, that technology? It is quite possible that over the next few years Russian, and possibly other former-Soviet military forces, will become so strapped for cash that

they will be willing to sell their most advanced weapons to China. If they do, will the PLA be able to absorb those weapons, put them into operation, and keep them in operation?

(2) Will the Chinese finally get some or all of their long-delayed fighter aircraft programs (FB-7, FC-1/Super-7, F-10, Su-27) into actual production? When? Which ones? Containing how much foreign technology, and whose? Will they have aerial-refueling capability? State of the art air-to-air missiles (AAMs)? Beyond-visual-range AAMs? Look-down/Shoot-down radars?

(3) Will Taiwan get modern anti-submarine warfare (ASW) gear from the United States or elsewhere?

(4) Will Taiwan succeed in acquiring additional modern diesel-electric attack submarines?

(5) On 25 July 1996, the first production batch of F-16A/B fighters ordered by Taiwan in 1992 was completed. Deliveries of the 150 fighters are expected to start in 1997, and to be completed around 2000.³ Will all 150 actually be delivered?

(6) In a 7 May 1996 ceremony in France, Dessault Aviation handed over the first of 60 Mirage 2000-5 fighters to Taiwan. All 60 are scheduled to be delivered by the middle of 1998.⁴ Will they be?

(7) Will Taiwan succeed in acquiring an advanced air/missile defense system?

(8) How will the internal political, economic, and military shape of the two antagonists evolve over the next decade or so?

(a) Will the political system of the PRC change fundamentally?

(b) Will the political system of the government on Taiwan change fundamentally?

(c) What will be the cumulative effect on the People's Liberation Army (PLA) of its entrepreneurial and other economic activities?

(d) What will be the effect on the PLA if the PRC goes into a serious economic slump?

(e) Will morale, good order, and discipline—to say nothing of political loyalty—be maintained in the armed forces on Taiwan?

(9) How skillfully will the Beijing and Taipei governments play the diplomatic and propaganda contests that accompany future military crises?

(10) In a military crisis between China and Taiwan, what would the Republic of Korea (ROK), Japan, Russia, and Association of Southeast Asian Nations (ASEAN) do and under what circumstances would they act?

Question 8(e) may seem more political and social than military, but it cuts to the very heart of Taiwan's survival. Already, there are serious questions about the loyalty and morale of the armed forces on Taiwan, and they are likely to become more serious over the coming decade. The top military leadership maintains loyalty to the constitution of the Republic of China—that is, it supports traditional reunification policy. Deputy Defense Minister General Chao Chih-yuan said so in May 1996, when he was questioned by a legislator about the national identity of the armed forces.⁵ The loyalties and political identification of junior officers and enlisted ranks are less clear; there appears to be a growing "generation gap" in Taiwan's armed forces. According to some observers, morale, loyalty, and discipline are already deteriorating in Taiwan's armed forces. If so, their traditionally high standards of training, readiness, and maintenance will deteriorate as well. The reported deterioration is not only caused by problems related to the Taiwan's ambiguous political status and disagreements about "One China" versus Taiwan independence. It also results from economic and social changes in Taiwan's society. Terms of service have been shortened, while recruiting has become increasingly difficult. It is questionable whether there will be enough people to crew the new aircraft, ships, and missiles that are becoming available. A Taiwan officer recently suggested that the United States resisted leasing the Knox-class destroyers to Taiwan for some time on the grounds that Taiwan didn't have enough sailors to crew them.

The answers, to even the explicitly military questions (1-7) above, imply other assumptions which are primarily political. For example, Mirage deliveries would be interrelated with Taiwan's quest for additional submarines, and with its overall relationship with Western Europe.

The pivotal question is what would the United States do in the

event of a military crisis, and under what circumstances would it act. That would depend largely upon the internal American political climate at the time of the crisis. By 2010 or so, China's existing long-range nuclear forces not only may be more numerous, but their targeting also may have improved sufficiently that PLA missiles could target American carrier battle groups in the Western Pacific. A repeat of the kind of carrier diplomacy the United States carried out in March 1996 would become a good deal more dangerous—a point to which we shall return.

Moreover, there are some new technologies and strategies which could change all the scenarios drastically, and which have been essentially ignored by the scenario writers. Here are some examples: First, the United States is actively pursuing various ballistic missile defense (BMD) schemes; for example, the Theater High Altitude Area Defense System (THAADs); and is trying to involve various of its allies, notably the ROK and Japan. Beijing has been outspoken about the "threat to peace and stability" (read: PRC ballistic missile capabilities) posed by American BMD—especially in East Asia, and most especially if it involves Japan. The Chinese have threatened—quite explicitly—that the deployment of BMD systems anywhere in East Asia would be regarded as an inherently anti-Chinese action, which would provoke a robust Chinese response. That response would probably include a rapid expansion of the hitherto modest PRC strategic nuclear force.⁶

A second possibility is that readily available, off-the-shelf Global-Positioning Satellite (GPS) locators might be mated to cheap, reasonably reliable cruise missiles.⁷ Both China and Taiwan might be able to deploy accurate cruise missiles over the next few years. Taiwan is developing the Hsiung Feng-3 anti-shipping missile, with a reported range of up to 300-km. The PRC is reportedly developing a cruise missile with a range of 600-km; "...this or another [PRC] programme has been reported as providing a nuclear air-launched weapon option."⁸ If Taiwan or the PRC were to open a commanding lead in that technology, it would gain enormous military and political leverage. Such cruise missiles might even help close the vast military gap between China and the United States. Beyond that, by 2010 or so, cruise missiles with weapons of mass destruction (WMD) payloads, in

the hands of who knows what other countries, might conceivably alter the strategic landscape beyond our imagination. A third new, barely embryonic, technology/strategy is "information warfare." IW is still extremely iffy, but even within the U.S. government—which is still in the process of defining exactly what IW is—it has some very serious thinkers very concerned. IW involves, among other things, "battlefield awareness; [and] information survivability and integrity." "A cyber attack would comprise an electronic assault on computers and communications systems using logic bombs, viruses or other computer-based attacks that deny, destroy, disrupt or manipulate defence and economic data."⁹ There are IW task forces in each American military service and "an emerging emphasis in the Office of the Secretary of Defense and Joint Staff."¹⁰ There is even a Critical Infrastructure Working Group in the Executive Office of the President. "Information warfare" could conceivably cause a true paradigm shift over the next decade, changing the nature of warfare as fundamentally as did air power or even gunpowder.

It is not clear what is being done about IW on Taiwan, although Taiwan's Ministry of National Defense (MND) announced in September 1995 that it plans to form its first electronic warfare (EW) unit.¹¹ My guess (and it is only a guess) is that Taiwan will adapt better and faster to the demands of IW, or whatever like it emerges, than the PLA. Taiwan has a world-class electronics industry, and a political-economic-industrial system that is small enough and flexible enough to make the kinds of institutional adjustments that may be required by IW.

The PLA—precisely because of its relatively primitive command, control, communications, and intelligence (C³I) systems—is likely to be less susceptible to IW attack. As the PLA modernizes, however, it will *ipso facto* depend more heavily on complex, high-tech C³I, and PLA vulnerability will increase—not only to IW, but to conventional EW. Though the PRC electronics industry generally lags Taiwan's, the Chinese already are excellent software writers. Moreover the PLA is already very interested in IW, and is devoting resources to it.¹² Reportedly, the PLA recently discovered the first case of computer "hackers breaking into military networks."¹³ That will certainly add impetus to the effort.

A fourth possibility is that Taiwan may not remain dependent on

outside suppliers for weapons—even the most modern. Paul Dibb believes the ROK, Taiwan, and some of the ASEAN powers will acquire—by the transfer of advanced technology and equipment from Europe, North America, and Russia—some of the latest developments in such areas as stealth technology, cruise missiles, and advanced communications. Dibb thinks that they will be challenging the established exporters of such technologies by 2010 or so.¹⁴

Bean Counting

There is an enormous difference between “order of battle” (OB) and “bean counting.” Many articles about the military balance in the Taiwan Strait provide the latter, and amount to little more than lists of who’s got how many widgets and how many people. The U.S. Army defines eight “Order Of Battle Factors.”¹⁵

- (1) ***Composition***
 - (a) Unit identification
 - (b) Organization
- (2) ***Disposition***
 - (a) Geographical location
 - (b) Tactical deployment
 - (c) Movements
- (3) ***Strength***
 - (a) Personnel
 - (b) Weapons and equipment
 - (c) Type of units
- (4) ***Training Status***
 - (a) Individual
 - (b) Unit
 - (c) Special
- (5) ***Tactics***
 - (a) Tactical doctrine
 - (b) Special operations

- (6) ***Logistics***
 - (a) Systems
 - (b) Current status
- (7) ***Combat Effectiveness***
 - (a) Combat experience
 - (b) Morale
 - (c) Other factors
- (8) ***Miscellaneous***
 - (a) Personalities
 - (b) Unit history
 - (c) Uniforms and insignia
 - (d) Code names and numbers

“Bean counts” are mostly about strength, with particular emphasis on weapons and equipment. There are several high-tech areas where developments on one or the other side could have a major impact on the bean count. Taiwan might become sufficiently independent of American technology to resume its dormant ballistic missile program. In the 1981 National Day parade, Taiwan’s Army unveiled its Ch’ing Feng (Green Bee) ballistic missile, which closely resembled the American Lance battlefield missile, that had a range of 130 kilometers. The Lance is operated by Israel, which presumably assisted Taiwan’s Chung Shan Institute of Science and Technology (CSIST) with Ch’ing Feng development.¹⁶ There were reports in the early 1990s of a CSIST design for a 950-1,000 kilometer-range ballistic missile called T’ien Ma (Sky Horse).¹⁷ Such reports evidently provoked American concern, because the United States reportedly intervened to prevent the Ch’ing Feng from entering service.¹⁸ If that is so, the United States certainly also would have tried to prevent T’ien Ma development. In October 1990, the United States refused to supply “critical missile booster technology” to Taiwan, causing the termination of Taiwan’s plans to develop a satellite-launch capability.¹⁹ Nevertheless, missile developments in Taiwan continued. On 11 March 1991, CSIST announced that missile research and development over the next decade had been allocated approximately NT\$18 billion.²⁰

If it became available, T’ien Ma could strike preemptively at ports, airfields, and missile bases on the mainland in an arc covering all the

way from East Sea Fleet Headquarters in Shang-hai down to South Sea Fleet Headquarters at Zhanjiang. Resuming the T'ien Ma program would only require that CSIST do a sufficiently good job of concealing it, or that the United States look the other way.²¹

The importance of air defense to both sides should not be underestimated. The PLA's new S-300 (SA-10 Grumble) surface-to-air missiles (SAMs) could be crucial, because they could prevent successful counter-strikes by Taiwan's air force.²² Rosvoorouzhnie, the leading Russian arms exporter, recently arranged to sell 120 additional S-300 SAMs to the PLA.²³ Similarly, "within a year or so Taiwan will be able to buy the upgraded Patriot (PAC III) [also called Patriot Type III] anti-missile system. This will give Taiwan a TMD [tactical missile defense] capability that will go some way toward defending the island against a mainland missile attack."²⁴ For tactical air defense, the U.S. Defense Department announced on 23 August 1996 that it will sell \$420 million worth of military equipment to Taiwan, including 1,299 Stinger SAMs, 74 vehicular-mounted Stinger launchers, and 74 Stinger trainer units.²⁵

In addition to the Patriot Type III system, Taiwan's MND also reportedly will attempt, over the next decade, to develop an anti-missile system based on the T'ien-kung (Skybow) medium-range SAM. *Lien-ho Pao* quoted an official as saying that although the T'ien-kung system would not be any better than the Patriot Type III, the primary purpose was to develop an indigenous anti-missile system in order to improve Taiwan's bargaining leverage in negotiating for other foreign weapons.²⁶

Taiwan currently is encountering difficulties in its efforts to acquire European weapons. In October 1995, the Taiwan press announced that Paris and Taipei had signed a memorandum of understanding for the sale of 550 Mistral SAMs. The French government quickly denied the report. Evidently the French Defense and Foreign Ministries held conflicting views on the sale, with the Defense Ministry advocating it and the Foreign Ministry urging restraint. The same conflict occurred during the 1991-92 Mirage negotiations. This time, however, Beijing was much more forceful in expressing its opposition. On 8 November 1995, PLA Chief of Staff Fu Quanyu stopped in Paris to personally express Beijing's concern.²⁷ In January 1996, the French government

apparently made the final decision not to sell the Mistrals.²⁸

Sources

Published analyses of military forces usually begin with the bean-counts presented by the International Institute of Strategic Studies (IISS) in its annual publication, the *Military Balance*. Perhaps because it is regarded as the “standard source,” *Military Balance* tends to repeat what it said last year until some spectacular event, or an overwhelming scholarly consensus, forces it to change. A decade ago, several participants of this conference, after years of writing and publishing, finally got *Military Balance* to stop saying: “Chinese defense policy has for long maintained a balance, at times uneasy, between two concepts: nuclear force to deter strategic attack and People’s War . . . to deter or repel conventional invasion.”²⁹ That dubious statement finally was shifted to past tense in the 1986-87 edition.

Military Balance consistently gives “high-side” counts for the PRC and tends to be very credulous about rumors and muddled news reports. Moreover, it frequently reports systems still under development as already being operational. For example, the current entry on the PLA Navy says, probably incorrectly (see below), that there are five operational Han-class SSNs—two of them “with 12 times C-801 SSMs [surface-to-surface missiles].”³⁰ This is a misleading summary of the situation as described in *Jane’s Fighting Ships*, 1994-95; C-801 launch tubes were reportedly installed aft of the fin, and only can be launched when the sub—at grave risk—is surfaced.³¹

Although a number of scholars publicly questioned the three (or sometimes more) Chinese nuclear ballistic-missile submarines (SSBNs) that *Military Balance* listed in the early 1980s, it took the January 1987 official Chinese announcement that the first *Xia* SSBN had become operational to finally get *Military Balance* to reduce its SSBN count to one. As noted above, *Military Balance* currently lists five Han-class SSNs, despite Lewis’ and Xue’s description of radiation problems which have reportedly led to two of them being scrapped.³² A decade’s accumulation of evidence, climaxed by Tai Ming Cheung’s 1993 reporting, finally got *Military Balance* to reduce its listing of operational diesel-electric submarines from “over a hundred” to “about 50.” It took that long even though the naval editor of the *London Times* observed that

the PLA-Navy (PLAN) submarine he toured in September 1980 included such interesting features as painted bearing surfaces. In July 1983, Bruce Swanson came back from Shanghai with photographs of about 20 Hugu-class (Type-024) missile boats rafted together at the naval base; visibly—literally—rusting away. Nevertheless, *Military Balance* (and all of the journalists who quoted *Military Balance*) kept listing a gigantic missile boat force, including those rust-bucket *Hegus*.

Other “standard sources” are the *Jane’s Yearbooks*, especially the venerable *Jane’s Fighting Ships*. Though generally more careful than *Military Balance*, the *Jane’s Yearbooks* are subject to some of the same criticisms—a tendency to accept rumors and muddled news reports, and to repeat last year’s listings in the absence of strong evidence to the contrary. Over the years, however, Jane’s has been more attentive to changes, and regularly features “deletions.” There are other sources besides *Military Balance* and *Jane’s*, but their editors often have axes to grind, or are seeking to conceal important details. For example, the annual *Republic of China Yearbook* gives brief listings of Taiwan’s military forces, providing gross numbers of people in uniform and types of major operational platforms, but merely listing units. There is no indication of which equipment, and how many pieces of it, are assigned to which units.³³ Taiwan sources on the PLA tend to be rather alarmist, giving high-side numbers. For a relatively moderate Taiwan appreciation, see the article appearing in *Chung-kuo Shih-pao*, 21 August 1995.³⁴ The PRC, of course, publishes no figures at all.

There are new sources of information on the Internet. All of the following sites were discovered through James Mulvenon’s Chinese Security Page.³⁵ One of the more interesting Web pages is Wei Jun’s *Chinese Navy Home Page*. Author Wei Jun Wen breaks out the destroyer force in detail, giving not only the armament and layout of each type, but also their pennant numbers. He also provides some nice pictures. Alas, like most Web pages, the *Chinese Navy Home Page* is a project in progress, which contains no other information.³⁶ A similarly detailed page is *China Military Aviation* by Hui Tong. Its title notwithstanding, this site contains excellent information and photos of ships, as well as aircraft—including the first published photographs of the new Song-class submarine.³⁷

A meticulously constructed site is *Military Aviation of ROC*, edited by

Wei-bing Chang. This provides the most detailed bean count on Taiwan's Air Force likely to be found anywhere outside the MND in Taipei. It includes the locations and numbers of all the fighter wings and transport units, pictures of the various aircraft types, and even the serial numbers of individual aircraft, broken down by subtype. All of this is said to be from the open-sources listed at the end. Its a very handy page.³⁸

A generic problem with Internet information is that you don't know anything about your source. It would be interesting to know more about Wei Jun Wen. Wei-bing Chang, a PhD in Electrical Engineering at the University of Wisconsin, offers little clue as to why he obviously devotes so much time to his Web site, aside from his Taiwan origins. Material that appears in printed media has usually been through some sort of vetting process, and mostly appears in publications which, over the years, have established reputations which provide a basis for evaluation. In the case of a Web site, however, you may be looking at data plagiarized from elsewhere or at the original work of just one person—which may or may not have been reviewed by somebody else before it went out over the Net. Moreover, Web pages come and go, are abandoned, and mutate—changing their names, authors, and viewpoints. That happens to print sources as well, of course, but not nearly so quickly. For example, what was called Wei-bing Chang's *Military Aviation of ROC Home Page* in August 1996 was called the *ROC Air Force Home Page* the previous June. Still another problem is that information is always being updated; the old information, located at the same spot on the electronic page, has disappeared forever. Naturally, it is easier to publish a dubious statement or "factoid," knowing it can be changed or deleted with a key stroke. That doesn't make for careful scholarship. Responsible authors post the date of their last update. Careful users should cite the dates they accessed a site.

Numbers and Capabilities

Almost all of the Taiwan Strait scenario bean counts add up everything available to Taiwan on one side, and everything available to the PRC on the other. Bitzinger and Gill, for example, count all of the PLA, and rather than counting units they count systems. Realistically however, some portion of PLA forces will always have to be devoted to

other purposes—particularly the ground forces. Some ground forces will always be required for border defense and internal control (particularly in unstable areas like Tibet and Xinjiang). Therefore, it makes sense to only count ground force units in the Guangzhou, Nanjing, and Jinan MRs. However, it doesn't matter what the total ground force bean count is. If the PLA divisions in the three MRs facing Taiwan get most of their armor and artillery ashore on Taiwan, the party's over. Most of Taiwan's forces, including much of its ground strength, would have been chewed up by then in the battle to clear the way for actual landings. Even disregarding the attrition of ground forces while defending the beaches, the three "engaged" MRs alone outnumber all Taiwan's ground forces. When looking at forces the PLA could commit to the battle for Taiwan—again reverting to U.S. military practice—there are three categories of PLA forces: "engaged," "reinforcements," and "reserves."

"Engaged forces" are those that can be brought immediately to bear on the battle—including ground forces in the Jinan, Nanjing, and Guangzhou MRs, plus all of the PLA Air Force (PLAAF), Strategic Missile Force ("Second Artillery"), and PLA Naval Air Force (PLANAF). To this, add the entire East Sea Fleet plus all the major surface combatants, large amphibious units, and submarines of the rest of the PLAN.

Included as "reinforcements" are the mechanized, tank, and artillery divisions available in the Shenyang, Beijing, and Chengdu MRs, and the rest of the North Sea and South Sea Fleets. "Reserves" include everything else, including PLA reserve units. Military and paramilitary personnel in major city garrisons, Tibet, and Xinjiang are omitted as are militia (as opposed to reserve units) and all of the People's Armed Police (PAP).

According to the excellent *Directory of PRC Military Personalities*, published by the U.S. Defense Liaison Office in Hong Kong, in the Guangzhou MR there are two group armies and one airborne army, including six infantry divisions, a brigade of marines, and three airborne divisions.³⁹ In the Jinan MR, there are four group armies, comprised of two tank, nine infantry, one artillery, and one anti-aircraft artillery (AAA) division (some of the divisions may be garrison units but are not so identified).⁴⁰ In the Nanjing MR are three group armies,

including one tank, 10 infantry, one artillery, and one AAA division, plus one "cadre division" of marines.⁴¹ *Military Balance* for 1996 gives somewhat higher, but comparable numbers.

Armed forces on Taiwan, according to the *ROC 1996 Yearbook*, include a total manpower of about 485,000 active-duty servicemen, of whom "nearly 270,000" are ground forces, including military police. Taiwan has one military police command, three army headquarters, a special operations headquarters (controlling two airborne brigades and two aviation groups), two mechanized divisions, 10 infantry divisions, six armored brigades, one tank group, three mobile divisions, two air defense groups, and seven reserve divisions. While this unit count is the same as it was in the *1993 ROC Yearbook*, the latter listed 310,000 ground forces, including military police, so there was a reduction of 40,000 active-duty ground force troops in those three years. While these reductions were openly stated policy, they create the suspicion that some units are now understrength. Allowing for different nomenclature, the 1996 *Military Balance* shows roughly the same figures for Taiwan's units as the *ROC Yearbook*, but is significantly lower in terms of people. *Military Balance* shows only 240,000 personnel including military police on active duty, plus 1,500,000 in the reserves (The *ROC Yearbook* gives no reserve figure at all.)⁴²

The overall size of the PLA is uncertain. *Military Balance* shows 2.93 million in the PLA in 1995. When the Chinese grandly announced the reduction of the PLA by one million troops in 1985, they did not state either the "before" or "after" size. The world assumed a reduction from about 4 million to 3 million. Since then, hardly a year has passed without news reports that China is planning, or at least debating, another PLA reduction of half-a-million or so. On January 16, 1996, Reuters reported from Beijing that some unspecified organization or person planned to cut the PLA by 500,000 in 1996, to 2.5 million. How those cuts would be distributed among the various forces was not stated. Reuters added that "China slashed its PLA by nearly 25% in the late 1980s—to 3.19 million in 1990 from 4.238 million in 1987."⁴³ No source is given for these figures. *Beijing Review* recently published the only official (and very round) numbers to date: "China has engaged in disarmament, reducing troops from 5 to 3 million. The Chinese army will not be expanded until the year 2010."⁴⁴

For the air forces bean count, *Military Balance* 1996 says the PLAAF has 470,000 people, which includes "strategic forces and air defense troops" plus "160,000 recruits." Taiwan's Air Force is said to be 68,000 active-duty personnel. The PLAAF, according to *Military Balance* has 4,970 combat aircraft, which it breaks down by numbers and general types. Taiwan's Air Force has 430 combat aircraft and 59 transports, also broken down by type. These numbers for Taiwan differ somewhat from those given by Bitzinger and Gill (400 combat aircraft plus 77 transports). The *ROC Yearbook* lists the types of aircraft and units, but gives no numbers of aircraft.

Whether or not China will continue to acquire Soviet military technology, and successfully absorb it, is an important unknown.⁴⁵ Since Russia and China signed a five-year military pact in 1993, Americans have been concerned that the PLA might gain access to the most advanced Soviet technologies, including nuclear submarines, underwater missile launching, ICBM technology, and possibly even nuclear weapons technology.⁴⁶ So far, the principal fruits of the Sino-Russian connection have been 26 Su-27 fighters (identified as Flankers by NATO);⁴⁷ a significant, but unknown, number of SA-10 (S-300) Grumble air-defense missiles; and four Kilo-class submarines (one of which has been delivered). The Russians have also sold perhaps a dozen Il-76 Candid long-range transport aircraft, which have substantially improved China's strategic airlift capability. In December 1995, China and Russia reportedly reached a package agreement on Su-27 production under which China would buy another 24 aircraft, plus the technology to start producing Su-27s in Shenyang. If and when the Chinese actually succeed in producing the Su-27, they will reportedly remain dependent on Russia for AL-31FM engines, for spare parts, and for technical assistance. So, while China may close the technological gap somewhat over the next decade or so, the PLAAF will remain technically inferior to Taiwan's. By then, Taiwan will have over 130 Ching-kuo fighters armed with the T'ien-chien-2 (Skysword) medium- to long-range air-to-air missile (AAM). The Su-27's AA-10 Alamo medium-range AAM has a somewhat shorter range. In addition, of course, Taiwan expects to have 150 F-16s and 60 Mirage 2000-5s by then.⁴⁸

With respect to Taiwan's Navy, both *Military Balance* and the *ROC Yearbook* say Taiwan has 38,000 active-duty sailors. They disagree

on the number of marines: *Military Balance* says 38,000; the *ROC Yearbook*, 30,000. Bitzinger and Gill give no manpower figures for either navy. With respect to the PLAN, *Military Balance* shows 260,000 people, including “25,000 Coastal Regional Defense Forces,” 25,000 in the PLAN Air Force, “some 5,000 marines,” and “some 40,000 conscripts.” That adds up to about 95,000 personnel—so where are the other 165,000 (since $260 = 95 + 165$)? Are they all officers and career NCOs?

Military Balance 1996 gives Taiwan’s Naval vessel count as 4 submarines, 22 destroyers and 16 frigates of various kinds, 21 amphibis, and a large accumulation of smaller vessels, plus 32 S-2 naval aircraft. It shows the PLAN with one SSBN, 5 SSNs, one guided-missile-launching modified Romeo submarine (probably the so-called Wuhan-class), and 44 patrol submarines, including the first of the Russian Kilos, which is now possibly operational. *Military Balance* shows PLAN surface forces as 46 destroyers and frigates of various kinds, including one of the new Luhu destroyers and four of the new Jiangwei anti-aircraft frigates. It also says the PLA has 54 large and medium amphibious vessels, plus large numbers of auxiliary craft and small patrol boats. The PLAN Air Force is said to total 855 combat aircraft, and *Military Balance* gives numbers of the various aircraft types. Wei Jun Wen credits the PLA Navy with a total of 19 destroyers—one Luhu plus 15 of the various subtypes of the Lüda-class. For 1994, *Jane’s Fighting Ships* listed the same submarines as *Military Balance* did for 1995, but considerably more destroyers and frigates (56) and fewer PLAN combat aircraft (around 580).⁴⁹

Nobody seems to have noticed and counted the much rumored Song-class submarine except Hui Tong, on his *China Military Aviation* Web page. He shows two pictures (one of a model), and points out some unique features that distinguish it from a Kilo. Evidently, the Song exists, at least in prototype.⁵⁰ As always, we must wait and see whether the Chinese can make the historically difficult step from prototype to production.

There have been two interesting developments in PLA command and control organization. Widespread speculation has been provoked by press references to the “Nanjing War Zone” or “Nanjing Front,” as opposed to the “Nanjing MR.” The consensus

at the June 1996 Honolulu conference, supported by the PRC participants, was that the “Nanjing theater” is simply the Nanjing MR by another name. A more interesting development, in December 1995, was that the Central Military Commission (CMC) set up a new “Headquarters for Operations Targeting Taiwan (*dui tai junshi jihuibu*). When it was first set up to run the 1996 Strait exercises, CMC Vice-Chairman Liu Huaqing said this new headquarters “shoulders the mission of the great cause of reunification of the motherland.” It is commanded by CMC Vice-Chairman and former Chief of Staff Zhang Wannian. It has an investigation and research group, an intelligence group, a work group, an operations group, and a liaison group. This sounds like a coordinating headquarters rather than an operational command. Moreover, it is set up as a “general combat headquarters” in Beijing with an office in the Nanjing MR and branches in the provincial capitals of the Guangzhou MR. Its responsibilities are to collect intelligence and make recommendations to the CMC on the situation in the Taiwan Strait; to plan exercises (and presumably operations) in the Taiwan Strait and the “Nanjing theater.” It might actually assume operational command in wartime however, for it is “entrusted with the command of implementing war preparations and operations targeting Taiwan in an emergency.”⁵¹

Conventional Scenarios

With minor variations, recent publications by responsible scholars have laid out the same general military scenarios in the Strait.⁵² Gary Klintworth, for example, lists five scenarios:

(a) a PLA action “to demonstrate to Taiwan and the region, but especially the United States, that the PLA has the capability and resolve to attack Taiwan if necessary.” This includes actions like the exercises of July 1995 and March 1996.

(b) a blockade,

(c) an attack on one or more of the offshore islands,

(d) an invasion

(e) something else.⁵³

Bitzinger and Gill once again have done the best job of laying out the “conventional scenarios.” They posit the following: First, “low-level intimidation” (military exercises, weapons tests, confrontations at sea, and various kinds of covert subversion). Two, an economic blockade (naval blockade to strangle Taiwan economically). Three, a limited missile and/or air attack on Taiwan cities and other strategic targets (to de-stabilize the country, both psychologically and economically); and four, a full-scale invasion.⁵⁴

Bitzinger and Gill believe that by 2005 or so, the PLA will have a much increased ability to conduct “low-level harassment” of Taiwan from the sea and the air, and by ballistic missiles. They also conclude that Taiwan will not be able to respond directly to these kinds of PLA actions, but that by 2005 Taiwan will have a much better early-warning system and “a rudimentary ballistic missile defense.” These could at least alleviate some of the psychological impact of such harassment.⁵⁵

Reportedly, military commanders on Taiwan are most concerned about a combination of the “low-level harassment” and “full-scale invasion” scenarios, which is probably rooted in their memory of the PLA’s conquest of Hainan Island in the spring of 1949. Then, despite the threat of Taiwan’s Navy, the PLA loaded every available fishing boat, tramp steamer, and garbage scow to the gunwales with infantry, and ferried them across the 25 kilometer-wide Qiongzhou Strait to Hainan (which was already half-occupied by Communist guerrillas). The current concern is that the PLA might try the same thing again, in an attempt to take an off-shore island, or even Taiwan itself. Taiwan’s armed forces clearly have the military capacity to stop such an invasion, especially if it were directed against the Penghu Islands or all the way (some 200 kilometers) to Taiwan. However, the “fishing boat assault” scenario is plausibly threatening for two reasons. First, it could initially appear to be nothing more than harassment of Taiwan fishermen or the Taiwan coast by mainland fishing boats—a brand of “low-level harassment” that has recurred over the decades. Large numbers of boats might be positioned very close to Taiwan before the danger of a landing was recognized. The other threatening factor is that Taiwan military personnel might hesitate to fire on such helpless targets, especially if the boats were not firing and there were no visible weapons in the armada of small craft.⁵⁶ From the PLA perspective, the

“fishing boat assault” would be a dangerous gamble at best. Once the first few dozen boats had been blown out of the water with all hands, morale on the following boats would be much degraded, and the boats might well turn back. Worse still, embarked soldiers might well begin to return fire, which would only draw down more certain destruction.⁵⁷

With respect to blockade, by 2005 the PLAN will have a much improved coastal and ocean-going capability, including improved submarines. It will also have much better anti-aircraft warfare (AAW) and anti-surface warfare (ASUW) capability—supported by considerably improved logistical and C³I systems. Taiwan is building up forces to counteract this by activating new maritime surveillance aircraft, modern patrol craft, and ASUW missiles. Taiwan still has a pressing need for advanced submarines for use in ASUW, ASW, and mine-laying missions. Taiwan’s Navy emphasizes that it needs modern submarines for ASW, although that is a very inefficient way to conduct ASW. However, advanced diesel-electric submarines would be ideal platforms for mining harbors along the Chinese coast. Although (or perhaps because) such mine-laying could be crucial for the defense of Taiwan, official sources do not publicize it. Mine-laying is a less-obviously “defensive” mission, and so would make the sale of submarines to Taiwan all the more unpalatable to European governments.

Even by 2005, PLA air strikes on Taiwan and surrounding waters would be dangerous and costly. The PLAAF still lacks precision air-to-surface munitions, particularly long-range ones; long-range navigation gear; capable strike aircraft; and EW gear, particularly electronic counter-countermeasures (ECCM). Moreover, there is little evidence that PLAAF air-to-surface attack training is adequate or that it is improving. There is little prospect for breakthroughs in any of the related equipment areas, barring massive infusions of expensive foreign assistance; and it does not appear that the PLA is even shopping for foreign precision-strike gear. Instead, it appears to be concentrating on air-superiority weapons like the Su-27 and F-10.

For precision strikes with ballistic missiles, the Chinese have been trying to improve targeting and guidance, but their progress is uncertain. As mentioned earlier, however, the possibility of cruise missiles and/or GPS-guidance could cause a sudden leap in Chinese—

or Taiwanese—capability. In the face of PLA air/missile strikes, by 2005 Taiwan “will possess a sizable and very advanced air-defense network, comprising an airborne early-warning system, an automated command-and-control network, a large, modern air force equipped with stand-off air-to-air missiles, and several new surface-to-air missile systems.” However, Taiwan will still probably lack a dedicated or very capable anti-tactical ballistic missile system.⁵⁸

For the foreseeable future, China will remain unable to invade Taiwan. The PLA lacks, and will continue to lack, the air power that would be required to knock out shore positions and patrol boats close in, even if they had managed to clear the Strait. Suitable landing beaches on Taiwan are few and scattered. Landing forces would encounter strongly prepared shore defenses and a fleet of fast-attack missile boats which would be very hard to eliminate. China’s amphibious lift capability is currently no more than about 10,000 troops. Klintworth and others write that, like the British during the Falklands War, the PLA could commandeer cargo and container ships and a large fleet of airliners, plus swarms of fishing boats.⁵⁹ If it gets to the point where the PLA is moving people and cargo across the Strait in fishing boats and airliners though, it will mean that there is already a secure foothold on the island. As noted earlier, if that happens the game is up.

Any invasion would need to be supported by “fifth columnists” pre-positioned in Taiwan. Despite the efforts of the Taipei government to screen visitors and immigrants, increasing travel by scholars, businessmen, and artists; to say nothing of illegal immigrants, will continue to grow, and will no doubt include PRC agents. Moreover, some Taiwan residents may be compromised or recruited by the PRC. Several hundred individuals could be in place by 2001, with militarily significant caches of weapons, explosives, and communications gear. These people would be used before and during an invasion against critical military targets, to demoralize and shock the civilian population, and to provide intelligence and local guides for the invading troops. Perhaps most importantly, they would spread rumors, disinformation, and panic.

To reiterate a point made earlier, exactly how various scenarios play out in military terms depends not only on what kinds of hardware we assume to be available, but also upon the political context.

We may assume that both sides will launch a propaganda and diplomatic offensive. In the event of any of these scenarios, we have to ask how it could start—could one side or the other be able to depict the other side as clearly the aggressor? An escalating crisis in the Taiwan Strait, plus a political-diplomatic battle, would tend to force other countries in the Western Pacific to take sides. This would be particularly true in drawn-out “low-level harassment” or blockade scenarios. In such cases, the political-diplomatic battle would really be the main arena (as it was in 1995-96), with military operations providing backdrop and a sense of urgency.⁶⁰

However, a blockade would have an immediate economic impact—and not only on Taiwan. It certainly would effect Taiwan’s trading partners, and tend to force would-be neutrals to choose sides. The longer a blockade was prolonged, the greater would be the chances of U.S. intervention. A blockade would provide plenty of time for political signaling and compromise. Taiwan, the United States, or other governments might seek to get the UN or other international organizations involved. No doubt, the PRC would resist, claiming it as an “internal Chinese matter,” but the UN has been known to intervene in “internal affairs” elsewhere.

One way for the PRC to avoid international intervention, a scenario which has been raised in some of our earlier conferences, is a sudden, surprise attack. This would involve secret mobilization; then an all-out air, missile, and naval onslaught on Taiwan; followed up immediately by landings on at least some offshore islands, and possibly on Taiwan itself. Militarily and politically, this is perhaps the most promising scenario for the PRC. It would minimize the risk of American intervention. The American tendency in a foreign crisis is to dither and consult, at least for a little while. Since Vietnam there has been a strong American tendency to seek consensus and alliances before taking military action. One of Saddam Hussein’s biggest mistakes in 1990-91 was to provoke the United States and then wait while President Bush and his advisors built up the domestic consensus and formed the anti-Iraqi coalition. The PRC would avoid making the same mistake with a sudden assault.

The practical problem with the “sudden onslaught” is that the PLA simply will not be able to launch a sufficiently rapid or powerful assault any time in the next decade. Moreover, owing to the limitations, not

only of military C³I, but of fundamental infrastructure weaknesses in Eastern China, the PLA could not possibly concentrate the necessary resources within striking range of Taiwan without being detected very early by American and Taiwanese intelligence—and indeed by the international press. A “massive surprise onslaught” is flatly impossible, given the lack of roads, railroads, and other rapid communications, the limitations of airfields within militarily practical striking range of Taiwan; and the enormous problems the PLA would have building up the necessary logistical system (let alone all the supplies themselves). It is difficult to imagine the PLA being able to mobilize itself to seize Taiwan, any time in the next 15 years, without telegraphing its punches way in advance, not only to American intelligence but to the world. Moreover, Taiwan has been taking important new initiatives to launch its own surveillance satellites. Although the ROCSAT-1 only carries a low resolution ocean color monitor, follow-ons could carry higher resolution imagers such as the one being flown on the KOMPSAT payload that TRW is developing for South Korea. Taiwan National University has signed a reception agreement with Israeli Aircraft Industries’ HI-RES venture. Taiwan also may have receiving agreements with Landsat and SPOT, the French commercial satellite imagery service.⁶¹

Nuclear Scenarios

The shape of China’s nuclear force by 2010 is the subject of vast disagreement among analysts. On the high side, Paul Dibb⁶² predicts that by 2010 China will have a strategic nuclear force of between 50 and 70 multiple-warhead, solid-fuel ICBMs, compared to between 10 and 20 now. Each will have a range, according to Dibb, of 8,000-12,000 kilometers, and all will be either on mobile launchers or in silos. Dibb also expects China to develop three or four second-generation SSBNs equipped with missiles that can strike out to 8,000 kilometers. They would provide China a second-strike capability. Two Chinese SSBNs operating in East Asian waters could strike virtually all of China’s neighbors and most of the United States.

Dibb believes that China, however, will not develop a significant long-range strategic bomber force unless it acquires Tu-22M Backfire bombers from the Russians. Chinese Backfires have been discussed for a decade now, and still seem no closer to realization. According to

Klintworth, the Chinese have sought to buy up to a dozen Tu-22Ms. The deal reportedly was pushed by the Russian defense ministry, which is starved for cash, but was blocked by the Russian foreign ministry on the grounds that it would be highly de-stabilizing.

The strategic implications of the Su-27s and Kilo submarines are not nearly as great. Scenarios in which nuclear weapons are actually detonated in the Taiwan Strait have generally been ignored. Beijing has made much of its “no first use” (NFU) pledge. Moreover, the thinking goes, they would never use nuclear weapons on Taiwan, because the people there are their fellow Chinese.⁶³ Besides, nobody in Beijing is crazy enough to turn Taiwan—with its enormous wealth and productive infrastructure—into a radioactive ruin. The scenarios that I know of assume that the actual fighting, if any, would be non-nuclear. That assumption should be re-examined.

As Iain Johnston has shown, a number of Chinese military writers have stated that use of nuclear weapons in the face of a threat of nuclear attack is not a violation of the “no first use” principle.⁶⁴ Others reject the NFU principle outright.⁶⁵ Taking a slightly different angle, Hua Di of Stanford University’s Center for International Security and Arms Control, opined recently that NFU does not apply to use on Chinese territory [nor, presumably, in Chinese waters]. Chinese military strategists argued during the Cold War that China’s NFU policy did not prohibit use of Chinese nuclear weapons on Chinese soil to repel a conventional Soviet invasion.⁶⁶

Even more startling was the reported remark by Ambassador Sha Zukang, China’s head of mission to the Geneva Conference on Disarmament. According to the *International Herald Tribune*, citing an Agence France Presse report, in late July 1996, Sha said that Taiwan is “a province of China, not a state. So the policy of no-first-use does not apply.” It was in response to a question about Sha’s remark that ministry of foreign affairs spokesman, Shen Guofang, reiterated that the PLA would never use nuclear weapons on their fellow Chinese.

The official PRC statement following the nuclear test explosion of 29 July 1996 contained several interesting points never before included, to my knowledge, in a test announcement: “The development of nuclear weaponry by China was inevitable considering historical circumstances. The small sized nuclear arsenal possessed by China is

mainly for defensive purposes and does not pose any threat to other countries. The nuclear weaponry can help China defend itself and maintain its independence *as well as its sovereignty and territorial integrity*.”⁶⁷

To be sure, it has long been acknowledged in many of the “conventional” scenarios that Chinese nuclear power would influence the behavior of other actors. In particular, it might have a deterrent effect against American intervention. A PLA officer’s reported remark in late 1995, that Taiwan isn’t worth Los Angeles in the eyes of most Americans, is hardly news: Gerald Segal published the same observation at least a decade ago. But the July 1995 and March 1996 missile “exercises” involved nuclear-capable DF-15 missiles (the PLA service designation of the M-9) in the immediate Taiwan area, launched from the Nanjing Military Region. Their impact areas placed at risk the approaches to Keelung Harbor in the north and Kaohsiung Harbor in the south. It is presumed that the M-9 has both a nuclear and a conventional high-explosive warhead, and the PRC press referred to the launch units as part of the Strategic Rocket Force (“Second Artillery”) of the PLA.

During future “exercises” even longer-range nuclear-capable missiles could be shuffled around for the benefit of orbiting satellites and foreign reporters, and launched into the sea near Taiwan. An even more intimidating/provocative step might be, after giving sufficient warning, to actually launch one at an unoccupied Taiwan-controlled island or reef. Were the United States to bring a carrier battle group into Taiwan waters, as it did in March 1996, a far more escalatory and provocative action would be to launch a DF-21 or DF-15 missile into the sea somewhere in its immediate vicinity. A still further escalation might be to arm the missile with a high-explosive warhead. Reportedly, the PLA has made progress in converting some DF-21s or DF-15s to non-nuclear warheads, for use in regional warfare or intimidation.⁶⁸

Such actions would, of course, be extremely risky for the PRC. There are presumably limits to how much provocation American forces would endure before taking retaliatory action. Too daring an attempt to intimidate or deter the United States might provide precisely the *causus belli* that could pull the Americans into the action.

A big escalation from a blockade, but not yet a “lethal” attack would be a massive IW attack on Taiwan’s electronics by computer viruses; or a massive burst of electro-magnetic pulse (EMP). The latter would be conventional EW on a grand scale—more like the former Soviet Armed Forces’ doctrine of “Radio-Electronic Combat” than a true application of IW. Currently, the EMP of a large nuclear explosion is the only known way to massively black out electronics across a large area. This is another possible use for the Second Artillery which would be short of “nuclear attack” in the usual sense. Somebody may develop a militarily usable EMP generator of comparable effectiveness one of these days—one without the political stigma of being a nuclear weapon.⁶⁹ It is just the sort of “superb and secret weapon” that Chinese since Li Hongzhang have been seeking as an equalizer *vis-a-vis* the West.⁷⁰

A well-placed, large-yield, nuclear high-airburst near Taiwan could produce enough EMP to fuse the integrated circuits of many of the electronic devices on the island. Possibly, some of the electronics used by Taiwan’s military have been (or will be) “hardened” against EMP, but surely most, or all, civilian electronics have not been. Just knocking out civilian electronics would bring business, banking, government administration, manufacturing, some education, and most communications to a halt, and would cut off contact with the outside world. EMP attack from a nuclear air-burst might not kill anyone directly—although people would surely die when electronics failed in hospitals, flying aircraft, etc. Depending upon the degree of EMP hardening of Taiwan’s military electronics, the island’s defenses might be totally disabled or just badly degraded by the disruption of civilian electronics.

This “electronic blackout strike” would hardly be just another step in tightening the screws. If it involved a nuclear weapon—even a high-airburst with little fallout and few casualties—it would have severe political-diplomatic repercussions. It might provoke enough outrage to bring the United States into the fight. That being the case, it would make sense for the PLA to follow-up an EMP strike with missile and air attacks on Taiwanese military targets. These attacks could be followed up by an extremely high-risk military gamble: a “sudden onslaught” by limited ground forces from their peacetime bases.

The 15th Army supposedly has three airborne divisions. There are

also unknown numbers and types of special operations forces, including various commando-type “rapid-reaction units” of the PLA and PLAN capable of parachute insertion anywhere in China within 20 hours.⁷¹ These might all be dropped into carefully selected parts of Taiwan, to further damage defenses and to seize an airfield or two—but they would be targeted primarily with a view to their psychological impact. They would be supported, as described above, by a “fifth column” of agents-in-place. Transport aircraft that survived the airdrop operation would attempt to bring in additional “rapid reaction forces” from the Guangzhou, Nanjing, and Jinan Military Regions and land them on captured airfield(s).

Now, this would put, at most, a few thousand PLA soldiers on the ground on Taiwan. They would be massively outnumbered and out-gunned, and almost totally without support. The PLAAF probably could provide no effective close air support. Logistical support would be limited to a few airdrops. The invaders would be doomed, if they met serious resistance. But would they?

The “electronic blackout strike” would have created a sense of shock and helplessness, to which the missile- and air-strikes would have added. Then, PLA soldiers would suddenly be everywhere (not very many of them, but who would realize it?). There would also be the actions of the “fifth column”—causing unexplained infrastructure damage and spreading disinformation. The effect might be a collapse of popular resistance in the face of an apparently “inevitable” conquest. This might lead to a collapse of nerve and discipline in Taiwan’s ground forces, which might last just long enough for a massive airlift of additional troops to the island by the commandeered PRC civil air fleet.

There are some precedents for such a scenario. In 1940, the Luftwaffe captured Oslo, Norway with a handful of Ju-52 transports and the crews of six Me-110 fighters. The force, which included a small brass band, landed at the airport, marched into town and took over, under the command of the German Air Attache.⁷² Perhaps a still better precedent is the one we all witnessed in 1991. Non-nuclear EW and airstrikes imposed an electronic blackout on Iraq. That was followed by massive air and missile strikes on military targets, and then by a well-coordinated, lightning-fast ground assault by numerically smaller forces. On 15 March 1991 Iraq had the largest army in the Middle East;

48 hours later, it had the fourth-largest army in Iraq. Blinded, shocked, leaderless, and terrified, it had just dissolved.

If the PLA were to attempt such an operation, it would be a desperate gamble, but it might work, and it could be done without an extensive mobilization. That way, not only would the people and armed forces of Taiwan be shocked and surprised, so would the United States. The assault would be launched when no significant U.S. naval forces were in the immediate area, and the airborne invaders would either succeed or die before Washington had time to settle on a policy—let alone bring forces to bear.

There is still another possibility—that PRC decision makers might decide to not only demonstrate or threaten, but actually use nuclear weapons against the U.S. Navy. Since at least some American military electronics are already EMP hardened, an “electronic blackout strike” would probably degrade the capabilities of a carrier battle group, but not knock it out completely. If it were an EMP strike with a nuclear weapon, it would only provoke retaliation without decisively changing the strategic balance in the western Pacific. So, if Chinese nuclear weapons were to be used at all, it would make more sense to go ahead and aim for destruction of the carrier. Like all other scenarios, this is predicated on a couple of assumptions: First, that the United States will continue to draw down its military forces, and so will not always have two or more carrier battle groups available in the western Pacific. Dibb⁷³ believes that Washington’s assurances to the contrary notwithstanding, the American presence in the Pacific will probably be considerably reduced by 2010, particularly if North and South Korea should reunify. Chinese leaders might conclude that knocking out the Seventh Fleet’s only carrier battle group in the Western Pacific could knock the United States out of the battle for Taiwan. Of course, that would depend upon a critical miscalculation on the part of the PRC authorities about how Americans might react.

The scenario is not quite as crazy as it sounds, because the PRC would be in an almost ideal geo-political position to use nuclear weapons. First of all, the Chinese could make a reasonable case to the world—and more importantly to themselves—that their supreme national interest, “sovereignty and territorial integrity” were at stake. The U.S. fleet, entering “Chinese” waters during a crisis, would be interfering in China’s internal

affairs—interference which could even be interpreted as an “attack.”

China could claim the technical and moral high ground on a couple of counts. A nuclear attack on an American carrier battle group would produce no collateral damage—human or material. A naval force at sea is about as purely a military target as can be imagined. During the winter monsoon, radioactive fallout would drift eastward into the open Pacific Ocean, which would help minimize the adverse political fallout (which nevertheless would be enormous). However, a practical draw-back to such an attack is that the optimum time for PRC use of any WMD in the Taiwan Strait is the worst time for naval operations. The northwest monsoon funnels through the Strait and causes very high sea states.⁷⁴

Allen Whiting has described a “Chinese calculus of deterrence,” demonstrating that the PRC has preferred to mass forces and provide plenty of warning to its adversaries, hoping to avoid combat while prevailing by intimidation.⁷⁵ I have suggested several scenarios in which there is no Chinese warning at all:

1. Conventional “sudden onslaught” on Taiwan
2. “Electronic blackout” attack on Taiwan
3. “Electronic blackout” attack on Taiwan followed by airborne/air-landed assault
4. Nuclear attack on the Seventh Fleet.

While there might be no last-minute warnings, perhaps long-term warnings have already begun. In addition to the now notorious remark about losing Los Angeles, there was a recent pugnacious article in *Sing Tao Jih Pao* (ironically, once the main voice of the KMT in Hong Kong). Reporter Yin Yen wrote that, “In terms of nuclear power, a Beijing expert said, the United States can destroy China 16 times while China can destroy the United States once. There is no actual difference between them.”⁷⁶

If the Chinese were to actually fire one or more nuclear missiles at a U.S. naval force which was maneuvering in support of Taiwan, U.S. retaliation would not necessarily be automatic. Inevitably, an American nuclear strike on China would produce some civilian collateral damage. Moreover, during the winter monsoon, radioactive fall-

out would blow east, toward Taiwan, Japan, Korea, and the Philippines. In summer, it would drift north and northwest, toward Russia. So the United States would be in something of a quandary as to what an appropriate kind and level of response would be. Ironically, this is an argument against the much-discussed PLAN aircraft carrier. If a Chinese carrier were at sea, it would provide a marvelously “pure military” target for American nuclear retaliation.

A major imponderable in any nuclear scenario would be the reaction of the American public—which could go either of two ways. It might be revulsion, and a desire to avoid further casualties by pulling back to our side of the Pacific. More likely is what might be termed a “Pearl Harbor response.” A Chinese nuclear attack on American forces would probably be the same mistake—based on the same miscalculation—that the Japanese committed in 1941, and that Saddam Hussein committed in 1990. They believed that the U.S. political system and the American people were so averse to the hardships and bloodshed of war that they would shrink from a foreign war in which there were no obvious American interests, only the prospect of extended fighting and heavy losses.⁷⁷ Chinese decisionmakers may not realize that the “Pearl Harbor reaction” is integral to Americans’ attitude toward war, even though they witnessed something of the sort in 1990-91. Americans regard war as a terrible aberration, but when we feel war has been “forced upon us,” we respond with a crusading fervor that makes anything but “total victory” unacceptable.⁷⁸

PRC leaders surely would realize that a nuclear first-use against the United States would be extremely risky; but they might miscalculate (like the Japanese before them) that American politicians would react so slowly and the American people would be so averse to further casualties that China could win at a single stroke, or at least push the United States out of the western Pacific. Almost certainly, they are wrong. It would probably be a ghastly mistake for China to do this. Still, it seems to me that it would be a good idea for Americans and Chinese to think about it seriously, before either party is faced with a deadly decision during a crisis. It is reassuring to recall that, historically, PLA leaders have been very cautious. They consistently have heeded the advice of Sun Zi (and Mao) to be sure of victory before accepting battle.⁷⁹

Before retiring from the U.S. Army Reserve a few years ago, I periodically served as a staff officer at CINCPAC. In theater- and global-level military exercises, the scenarios always were about the lead-up to a war—the accumulating crisis, the escalating DEFCONs leading up to the crisis point where full-scale fighting might erupt momentarily, and a nuclear exchange either would or would not take place. At that point, invariably, the exercise ended. We didn't go ahead with the exchange and the simulated carnage of an actual nuclear war. I assume there were other exercises wherein they did that, but I never saw it. Apparently the actual conduct of nuclear warfare was something that we just didn't want to think about. Presumably, the demise of the Soviet Union has made us even more averse to the idea.

One assumes that Chinese leaders are aware of this, and it might lead them to conclude that Americans just don't have the stomach for nuclear war. So, if U.S. forces were hit a couple of times very hard in the western Pacific, and if American cities were held at risk by next-generation Chinese ICBMs, the United States just might back off. After all, Taiwan really isn't worth Los Angeles to most Americans. PRC leaders might not realize that, in that scenario, in the minds of most Americans, the stakes would have become a lot more than either Taiwan or Los Angeles.

Summary

Perhaps the most critical part of scenario-writing is the making of assumptions. It is possible to assume that Taiwan will have lots of friends 10 or 15 years from now, including countries which are willing and able to supply the military hardware and technology Taiwan needs to protect itself. It is also possible to assume a future in which Taiwan has no foreign suppliers at all. It is possible to assume that good order and discipline will prevail in the PLA and in Taiwan's armed forces, and it is equally possible to foresee a disastrous breakdown in discipline and morale in either or even in both. Assumptions simply have to ignore the possibility of technological breakthroughs and paradigm shifts in the way warfare is conducted. We can't know the unknowable. But we should not forget that unexpected things can and do happen.

Another major point I have tried to make is that there is a differ-

ence between a bean count and an order of battle. Most of the published writing about “the military balance in the Taiwan Strait” is devoted to bean-counting—numbers of men and machines—and the technical capabilities of the machines (but seldom of the men—which is far more important). They seldom consider the other “Order of Battle Factors”—let alone factors like terrain and hydrography, weather, and socio-political factors that could directly influence the battle.

A third point is that there are scenarios we have overlooked or ignored—partly out of aversion and partly, perhaps, lack of imagination. One such is a nuclear scenario involving the United States. Every study about the defense of Taiwan agrees that the overriding consideration for the foreseeable future is whether (and when, and how) the United States intervenes militarily. The PRC might miscalculate that a nuclear strike on the Seventh Fleet would eliminate the American factor. Such an act would almost certainly be a disastrous mistake which would lead to a devastating military defeat for China. It is unlikely that all Chinese decision makers understand that.

Another improbable but conceivable scenario is an “electronic blackout” scenario. It might be followed up by a very weak—but psychologically devastating—airborne/air-landed assault, supported by a “fifth-column.” This scenario is extraordinarily dangerous for the PRC, but is perhaps “so crazy it just might work.” If the actual conquest of Taiwan were attempted, the Beijing regime would not necessarily fall if the invasion failed. If Saddam Hussein could ride out a military disaster inside Iraq, the Chinese Communist Party could surely survive one on Taiwan. They could just record their defeat as a glorious victory, as they did their 1979 debacle in Vietnam.

Finally, wild speculation is not only possible, but necessary, when talking about the Taiwan Strait, given the vast range of variables which most studies about the “military balance” assume away. If one disregards all the sensible assumptions, then (to quote Ellis Joffe) “anything is possible.”

Notes

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56. I am grateful to the participants at the Coolfont Conference for reminding me of the perennial Taiwanese concern with the "fishing boat assault" scenario.
57. I am grateful to June Dreyer for her trenchant critique of the "fishing boat assault" scenario at the Coolfont Conference.
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59. Klintworth, p. 7.
60. I understand this to be Andrew Nien-Dzu Yang's implicit thesis in his marvelously titled "*Crisis, What Crisis?*"
61. <<http://www.trw.com/seg/brochures./sats/ROCSAT.html>> accessed 07/18/96. Also see *Jane's Space Directory*, 1995-96. I am grateful to Vipin Gupta for bringing this to my attention.
62. Dibb, *Towards a New Power Base in Asia*.
63. This policy was restated by PRC Foreign Ministry spokesman Shen Guofang in an interview on Asia TV (HK), 6 August 1996. I am grateful to Ka Po Ng for bringing this to my attention.
64. Alistair Iain Johnston, "China's New 'Old Thinking': The Concept of Limited Deterrence," *International Security*, 20, no. 3 (Winter 1995/96), pp. 21-23. For a recent outspoken example, see Tseng Shu-wan, "Authoritative Person Stresses Force is Effective Means to Deal with Taiwan Independence," *Wen Hui Pao* (Hong Kong), 23 March 1996, p. 2, trans. *FBIS-CIII* 23 March 1996. I am grateful to Tai Ming Cheung for bringing this to my attention.
65. Pan Shiyong, for example, strongly implies his rejection of NFU in *Xiandai zhanlue sikao: lengzhan hou dezhanlue lilun* [*Reflections on Modern Strategy: Post Cold War Strategic Theory*], (Beijing: Shijie zhishi Press, 1993). I am grate-

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68. James Hackett, *Washington Post*, 14 January 1996, p. B4.

69. According to Liang Zhenxing, A suitcase-sized EMP generator has been developed at Los Alamos National Laboratory, which can destroy all the electronics inside a building by being placed near it. "Information Warfare: Major Influence" p. 55.

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71. Harlan W. Jencks, "China's Defense Buildup: A Threat to the Region?" in Richard H. Yang, ed., *China's Military: The PLA in 1992/1993*. Taipei: Chinese Council for Advanced Policy Studies (distributed in the United States by Westview Press), 1993, pp. 95-120.

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78. The best discussion of this American trait is still Gary Wills, Part IV "The Political Market (Woodrow Wilson)," in *"Nixon Agonistes: The Crisis of a Self-Made Man."* (Mentor, 1970).

79. I am grateful to Ellis Joffe, who pointed this out to the Coolfont conference.

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China's Missiles Over the Taiwan Strait: A Political and Military Assessment

by Richard D. Fisher, Jr.

Introduction¹

China's use of nuclear-capable ballistic missiles to intimidate Taiwan during military exercises in July 1995 and March 1996, was unprecedented on China's part. Comparing the two demonstrations, it is clear that China was attempting to signal an escalation in its anger over trends in Taiwan and to warn the United States from supporting Taiwan. But having used its missiles in such a threatening manner, it is not clear that Beijing made any real progress in advancing its goal of reunification with Taiwan. To wit, the government in Taipei briefly debated whether to build nuclear weapons to deter future missile threats; Taiwan's President Lee Teng-hui was able to rally support for an impressive re-election victory; and the Clinton Administration, which did little to respond to the first missile demonstration, staged—in conjunction with the second—the largest American show of naval force off China since the 1950s. China's belligerence also sparked an election-year U.S. mini-debate over the use of missile defense systems in Asia.

The challenge posed by China's use of missile intimidation will not fade soon. An early August 1996 reminder by a China's top arms-control negotiator that China's nuclear weapons No-First-Use pledge "does not apply" to Taiwan only further highlights the PLA missile challenge to Taiwan and U.S. policymakers.² The 1995 and 1996 missile demonstrations suggest that China indeed contemplates a spectrum of missions for its missile forces. This paper examines in greater detail the PLA's use of missiles in its July 1995 and March 1996 exercises, assesses the political and military ramification of those missiles demonstrations, reviews possible developments in China's missile forces, and offers suggestions concerning a U.S. policy response.

The PLA's Use of Missiles in its 1995 and 1996 Exercises

In its original July 18, 1995 announcement, the Chinese news agency *XINHUA* stated that the PLA would conduct "a training for launching a surface-to-surface guided missile" for the period of July 21 to 28.³ Two days later, in response to press queries, China's Foreign Ministry spokesman stated, "This will be a regular missile launching exercise conducted by China's People's Liberation Army."⁴ To the contrary, China's use of DF-15 short-range ballistic missiles to intimidate Taiwan in July, 1995 and the following March was unprecedented Chinese behavior. Heretofore, China had exercised restraint; it had never so brazenly threatened any of its Asian neighbors with nuclear-capable missiles. Previous Chinese Second Artillery (SA) and submarine-launched long-range missile tests had been conducted either inside China or in areas of the Pacific far from any populated territory.⁵

China's use of missiles in these two exercises was likely the most intensive use of nuclear-capable missiles for intimidation by any of the nuclear powers. In 1987 the former Soviet Union test fired only one intercontinental ballistic missile (ICBM) to a location about 200 miles north of Hawaii—compared to China's firing of about 10 missiles. North Korea's test of its Nodong missile in the Sea of Japan in May 1993 does not equate with China's subsequent actions because Pyongyang's nuclear missile capability was suspect. During the U.S. basing of Thor intermediate-range ballistic missiles (IRBMs) in Turkey and the Soviet placement of nuclear missiles in Cuba, missiles were never demonstrated in their respective staging areas. During the U.S.-Soviet Intermediate Nuclear Forces build-up in Europe during the mid-1980s, neither the United States nor the Soviets tested their missiles in international seas close to the other side's territory. And during the Persian Gulf War the United States deployed nuclear-capable systems in response to Iraqi aggression and only to deter their use of weapons of mass destruction.

China's recent use of large-scale PLA exercises as an adjunct to its diplomacy toward Taipei can be traced back to October 1994 when the PLA conducted a large combined-arms exercise on Choushan Island. In 1995 and 1996 China conducted additional large-scale combined-arms exercises amid a backdrop of increasing PLA political influence

due to Chinese Communist Party transition politics. In addition, there was rising anger in Beijing at Washington's flip-flop regarding its decision to grant a visa for Taiwan's President Lee Teng-hui to make a "private" visit to his alma mater, his actual visit in June, and Taiwan's boisterous democracy. Perhaps the most prominent feature of these exercises was the employment of the PLA's Second Artillery to fire nuclear-capable ballistic missiles near, and then in, the Taiwan Strait, during the periods of July 21-26, 1995 and March 8-15, 1996.

Demonstration No. 1: July 21- to 26, 1995

The first hint that the SA was being used in a manner that might threaten Taiwan came in late February, 1995, from Admiral Liu Hochen, Taiwan's Armed Forces Chief of Staff. At a symposium Liu stated that China had secretly moved a short-range ballistic missile "base" from Jiangxi Province to Fujian Province opposite Taiwan. Interestingly, Liu said that this action coincided with the late January 30 delivery of PRC President Jiang Zemin's eight-point policy toward Taiwan.⁶

However, it is doubtful that the "base" itself was being moved. It is likely that DF-15 missiles were being transported from their base in Leping, Jiangxi Province to an area just over the border with Fujian Province.⁷ According to one report, the DF-15 unit was the 815th Regiment based at Leping.⁸ A Japanese source notes that a SA regiment consists of a control battalion and five launch battalions, each with one missile.⁹ Another source reported told the author that the 815th Regiment was formed sometime in 1994 and is subordinate to SA 52 Base located near Tunxi or Huangshan, in Anhui Province.

The movement of the DF-15s out of Leping was one of a series of unconnected PLA-related events leading up the July missile demonstration. On February 8 the Philippines revealed that China had built structures on a reef near the islands of Palawan, about 70 miles within the Philippine Exclusive Economic Zone, causing shock in other ASEAN capitals. Then on May 15 China conducted an underground nuclear test, believed to be in support of a program to build smaller nuclear warheads for a new class of mobile missiles. And perhaps highlighting the relationship of the nuclear tests to the modernization of

China's nuclear forces, on May 29 China ran its first test of the DF-31 mobile ICBM.¹⁰ These actions—compounded by the political furor over President Lee's visit to the United States—created rising apprehension in Taiwan, illustrated by conflicting statements out of Taipei and Beijing, regarding China's plan to hold a large military exercise in late June. Anxiety over these reports nevertheless caused a 2.4 percent drop in the Taipei Stock Index on July 3.¹¹

These events, however, provided little warning for *XINHUA*'s July 18 announcement of the missile tests scheduled for July 21 to 28. The announcement, which was made at about 6 p.m. Taipei-time, said the tests would take place within a 10-nautical mile circle at 26 degrees, 22 minutes north longitude and 122 degrees, 10 minutes east latitude. This circle is about 90 miles north and slightly east of Taipei. Furthermore, *XINHUA* said the Chinese government advised the "governments of relevant countries and the authorities of relevant regions...against entering the said sea area and air space during this period."

The first missiles were launched on July 21: two DF-15s, very likely from the Fujian launch site. However, it was reported that one DF-15 crashed in Nanping County, well before reaching the splash site. According to one report the cause was a guidance system failure.¹² According to another source a booster malfunction led ground controllers to detonate the missile.¹³ On July 22 two more DF-15s were launched. All four missiles were launched between 1 and 4 a.m.¹⁴

No medium range missiles

Several published sources note that on July 23 China added a regional dimension to this demonstration by firing two medium-range missiles. According to one report the missiles were fired at 2:10 and 2:30 a.m.¹⁵ Multiple sources have identified the missiles as DF-21s fired from SA 51 Base near Tonghua in Jilin Province.¹⁶ However, U.S. sources have said that contrary to these reports no medium-range missiles were fired. One U.S. source stated that all six missile fired were DF-15s. Inasmuch as the reports of medium-range missiles emanated originally from Taipei, it is possible that Taiwan's government used the missile tests to generate reports unfavorable to China. Alleging the use of DF-21s would add a regional dimension to the missile demonstration, one aimed primarily at the United States. This use of the DF-21, though mistaken, was noted in U.S. press reporting and in analysis of

this missile demonstration.¹⁷ However, during the time of the July 1995 missile demonstration neither China nor the United States made an effort to correct the record.¹⁸

Two days later on July 26, at about 6 p.m., *XINHUA* stated that the "guided missile launch training conducted by the People's Liberation Army has ended, and vessels and airplanes can resume normal operations. . . ." ¹⁹ Continuing the momentum created by the July tests, 15 days later on August 10, *XINHUA* announced that from August 15- to 25, "guided missile and artillery firing exercises" would take place in a trapezoidal area close to the missile impact area. While these exercises did not feature the dramatic participation of the SA, they were reported to involve about 20 naval warships firing anti-ship and anti-aircraft missiles, plus about 40 aircraft.²⁰ However, coinciding with these exercises, China conducted an underground nuclear test on August 18, its second of the year.

Demonstration No. 2: March 8- to 15, 1996

Seeking to influence the voting in the December 2, 1995 Legislative Yuan elections in Taiwan, Beijing held naval and amphibious exercises from November 15- to 25 on Dongshan Island and used the Hong Kong press to leak stories about plans for additional military pressure leading up to the March 1996 Presidential elections in Taiwan. The reports indicated that Beijing was considering large-scale precision air bombing exercises and limited naval blockades.²¹ This campaign continued after the narrow KMT victory in Taiwan's legislative elections. By the end of December Chinese officials were confirming that large military exercises were planned leading up to the March election.²² Adding considerably to tensions were the reported warnings of former Assistant Secretary of Defense Charles Freeman. The *New York Times* wrote that Freeman had told Clinton Administration officials that the PLA "had prepared plans for a missile attack against Taiwan consisting of one conventional missile strike a day for 30 days."²³

Wartime command organs?

Significantly, reports out of Beijing in late November began referring to a PLA organizational upgrade for the Nanjing region opposite Taiwan that suggested a wartime operational status. This region facing Taiwan was referred to as the "Nanjing Theater" instead of the Nanjing

Military Region.²⁴ The significance of this upgrade was that all ground, air and naval forces were placed under one commander to improve “joint operational capability.” The Nanjing Theater, in turn, is said by one analyst to be the “operational reflection” of the Military Command Headquarters Targeting Taiwan (MCHTT). This body reportedly was formed in October to take responsibility for analysis, strategy, plans for exercises near, and command of implementing war preparations and operations against Taiwan. The MCHTT, according to this analyst, is directly subordinate to the Central Military Commission (CMC) and is commanded by CMC Vice Chairman Zhang Wannian.²⁵

By early February Washington detected that preparations were underway for an exercise at least as large as the naval and air exercises of the previous November.²⁶ Reports out of Hong Kong stated that from 40,000 to as many as 400,000 troops were being mobilized in Fujian Province.²⁷ While the latter number was grossly exaggerated, it did contribute to the climate of fear sought by Beijing. By the end of February more sober reports put the expected number of troops to be used at 30,000 and reports speculated that the exercises would be held in two separate areas along the Fujian coast.²⁸

The first indication of possible use of missiles in the upcoming exercises again came from Taipei. In mid-February Taiwan’s Deputy Chief of Staff, General Tang Fei, was reported as saying that China was moving “a missile unit” from its base in Jiangxi Province to an exercise area in Fujian Province. He noted that troops preparing the missiles had started gathering in Fujian at the beginning of February and had completed basic preparations by the middle of the month. Taiwan’s Ministry of Defense (MOD) was later reported to have identified the launch staging area as Yong-an, in Fujian Province.²⁹ However, Tang was quoted as saying the missiles would be launched “after the conclusion of the exercises.”³⁰

Bracketing Taiwan

This prediction was proven wrong by the March 5, 6 a.m. *XINHUA* announcement of “ground-to-ground missile launching training” to take place between March 8 and March 15.³¹ Not only would the missile tests precede other exercises, the delineation of two splash down zones signaled a sharp escalation from the first missile demonstration. This

time China would use its missiles to bracket Taiwan's two largest ports. One zone formed a square roughly 47 miles west of the southern port of Kaohsiung, and the other, a square about 30 miles east of the northern port of Keelung. In addition, while the first demonstration did not put missiles over air or sea lanes, the second demonstration did just that in both impact areas. The northern impact area was just southeast of the major sea and airlines to Japan and Korea. In addition, this zone was almost bisected by an east-west air route. The southern zone was south of air routes between Taiwan, Peng Hu and Quemoy, and just astride a sea route to Hong Kong. As with the July announcement, "governments of relevant countries and the authorities of relevant regions" were requested to notify ships and aircraft not to enter the identified zones.

The first missiles were fired in the early morning of March 8. Three DF-15s were believed to have been fired, two into the Kaohsiung zone and one into the Keelung zone. According to an informed source, this demonstration involved the rapid re-loading of one launcher. Five days later, during the morning of March 13, one more DF-15 was believed fired into the Kaohsiung zone.³² Taiwan's MOD confirmed that the four missiles landed within the two zones.³³ It is possible that the same Leping-based unit was involved in the March exercises as similar movement of missiles from Jiangxi to Fujian had been detected in February. A subsequent *XINHUA* report identified the unit that possibly fired the first two missiles on March 8 as the "No. 3 Company."³⁴

In contrast to the previous missile demonstration, most likely in an effort to better stage a combined-arms event, the PLA timed two other exercises to coincide with the missile demonstration. Live-fire naval and air exercises took place opposite Southern Taiwan along the Fujian coast from March 12 to 20. These exercises, reportedly involving about 10 ships and about 40 aircraft, including new Su-27 jet fighters, were hampered by the weather.³⁵ And just before announcing the conclusion of the missile exercises, after 6 p.m. on March 15, *XINHUA* stated that "joint ground, naval and air exercises" would take place from March 18 to 25, in on and around Pingtan Island, an area opposite northern Taiwan along the Fujian coast.³⁶ Just after this report, *XINHUA* stated that "four missiles" hit the "designated target areas." During one or both of the combined arms exercises along the Fujian coast, the PLA deployed a new long-range surface-to-air missile (SAM).³⁷

A provocative number of missiles?

U.S. officials were reportedly expecting a total of six DF-15s to be used in this exercise.³⁸ Other sources in Washington and Taipei said that the PLA was ready to fire more than 20 missiles.³⁹ As inclement weather hampered subsequent naval and air exercises it is possible that weather problems prevented a larger number of missiles from being fired. Had such a large number of DF-15s been fired there may have been a greater chance of a misfire, with a potentially tragic result. In addition, had such a large number of missiles been fired the region might still be reeling from the political ramifications of such a large show of force.

Political Impact of the Missile Demonstrations

Following the second missile demonstration *XINHUA* quoted SA officers saying that the exercises made “due contributions in safeguarding national unity and territorial integrity...”⁴⁰ In using missiles in its recent exercises the Chinese leadership was targeting both an internal hard-line military audience and an external audience in Taiwan and the United States. While Jiang Zemin may have bolstered PLA support for his leadership by allowing the use of the SA, his doing so also backfired in ways that could damage China’s interests.

Satisfying the Generals

Inasmuch as the series of military exercises can be said to represent a bow by Jiang Zemin to the PLA, the PLA’s use of missiles helped establish the extent of China’s anger with Taiwan. If reports are true that the first movement of missiles out of Leping was timed to coincide with Jiang’s 10-point message to Taipei, that could indicate both PLA anxiety with the overture as well as a desire to pair a “stick” with Jiang’s “carrot.” That the missiles were used the following July very likely was meant to elevate the level of the PLA and the Party leadership anger at Lee Teng-hui’s visit to the United States. The timing of the March missile demonstration may have been intended to bolster the political prestige of the PLA. This demonstration was announced just before the opening ceremonies of the Fourth Session of the National People’s Congress at 9 a.m. on March 5.⁴¹ The announcement also coincided

with the 17th anniversary of China's withdrawal of forces from Vietnam.⁴²

Highlighting Taiwan's Vulnerability

By employing the SA, the PLA not only highlighted an area of its own competence, it also pointed out glaring holes in Taiwan's defense. Not only does Taiwan lack missiles comparable to the DF-15, it also lacks a defense against them. Before the March exercises Taiwan was reported to have moved some of its new Sky Bow SAMs to Peng-hu Island.⁴³ Even if this is true, the system is not believed to have an anti-missile capability. The March impact zones were most likely chosen to represent future areas in which the PLA might choose to contest control of the seas. In a non-nuclear scenario, however, the SA would need far more accurate systems in order to actually assist naval forces. The choice of the Keelung impact zone, on the eastern side of Taiwan, may indicate that the PLA will not ignore the desire to conduct future military operations east of Taiwan.

Both missile demonstrations were designed to illustrate the vulnerability of vital air and sea links (see Map 2). During the July demonstration some airline flights were re-routed. One air route was closed after the March missile test announcement. It is important to remember that about 70 percent of Taiwan's trade passes through the "targeted" ports of Kaohsiung and Keelung.⁴⁴ Had live ammunition been used in the missile impact areas, insurance companies may have raised their premiums and thus deterred traffic. The tests also highlighted the vulnerability of financial markets. The announcement of the first missile demonstration on July 18 caused the Taipei Stock Index to tumble 4.2 percent the next day to a 19-month low.⁴⁵ Successive declines forced Taipei to create a stabilization fund for the stock market. In early December 1996, a Taiwanese official told the author that capital flight to that date amounted to about \$5 billion although, in January, some estimates exceeded \$15 billion.⁴⁶

Backfire No. 1: Strengthening the KMT

Beijing's commentary on the exercises indicates that they were partially intended to scare Taiwanese away from supporting the KMT and Lee Teng-hui's policies. The missile demonstrations contributed to

a climate of fear, especially among businessmen. However, far from scaring voters away from the KMT, Beijing's show of force bolstered support for Lee Teng-hui. The PLA exercises and threats were not insufficient to overshadow an array of purely domestic political and economic concerns. Even officials of the anti-independence New Party attributed their gains more to their anti-corruption stance than to their criticism of Lee's independence tendencies.

Though many expected the KMT to lose its majority in the Legislative Yuan it nevertheless narrowly prevailed by a hair. The KMT did much better in the March 23 Presidential election; Lee won an impressive 53 percent of the vote in a three-way race. Lee repeatedly during this campaign Lee used Beijing's threats to rally support for his candidacy.

Backfire No. 2: Raising the specter of nuclear proliferation

An implicit nuclear threat to Taiwan was conveyed by the nuclear capability of the missiles used by China. Although mainly armed with conventional warheads, the DF-15 is thought to be capable of carrying a nuclear warhead. In addition, if one assumes a launch area near the Fujian-Jiangxi Province border, the placement of the July, 1995 impact zone suggests it was intended to show that Taipei is within range (see Map 1).

However, Beijing's veiled nuclear threat could amount to a gross miscalculation if it opens the door to wider nuclear proliferation. In Taiwan's Legislative Yuan, President Lee Teng-hui had to fend off suggestions from the opposition Democratic Progressive Party that Taiwan build its own nuclear deterrent. Lee stated, "Whether [we] need nuclear weapons would require long-term study. . . . Taiwan used to have the capability to build nuclear weapons but it caused international concern and damaged the country's image."⁴⁷ In the late 1970s and the late 1980s Washington had to convince Taipei to forego nuclear weapons-related activities.⁴⁸ While Lee soon issued a firmer statement saying Taiwan had no intention of building nuclear weapons, the thought had been planted. If Taiwan did develop a nuclear deterrent it would not only enrage Beijing, but it would also signal such a devaluation of the U.S. deterrent posture in Asia as to prompt others to consider the same course.

Backfire No. 3: Forcing Washington Off-the-Fence

While it perhaps is more proper to credit Beijing's general escalation between July and March as having forced Washington to get off-the-fence and take a stand, U.S. policymakers also responded specifically to the PLA's use of missiles. Having helped "raise" Beijing's ire by reversing its policy regarding Lee's visa to visit his alma mater, the Clinton Administration's first response on July 19 was to say it was not "wise or appropriate to deliver a comment, negative or positive, on these tests."⁴⁹ The best the Administration could muster was a statement on July 25 by Assistant Secretary of State Winston Lord that the missile test was not "promoting stability in the straits."⁵⁰ Lee's visit and the subsequent uproar sparked a debate in Washington regarding the degree to which the United States was obliged to support Taiwan, pursuant to the 1979 Taiwan Relations Act. In late October of last year, an unnamed State Department official discounted the possibility of U.S. military action if Taiwan was attacked, saying, "we would not be in a position to react with force. We would not elect to do that I'm sure."⁵¹ Through most of last year State and Defense officials characterized the U.S. posture as one of deliberate or strategic "ambiguity."

By early 1996, with an eye on its political standing in Asia, as well as in Washington, the Clinton Administration reacted far more firmly to the series of exercises in March. On February 13, Secretary of Defense William Perry called on China "to refrain from menacing military maneuvers directed at trying to intimidate Taiwan." After the March 6 missile test announcement the White House called them "irresponsible" and said it warned China of unspecified "consequences should the tests go wrong."⁵² On March 8 Congress introduced a non-binding resolution calling for the Administration to defend Taiwan against "invasion, missile attack, or blockade." During House hearings on March 14, Assistant Secretary of State Winston Lord stated that in the event of cross-strait conflict, "The entire Sino-American relationship would be put at risk."⁵³

Washington's military reactions also differed significantly. For the July demonstration the United States only mobilized intelligence assets. In addition to the presumed tuning of space-based sensors, the United States reportedly dispatched intelligence-gathering aircraft from bases

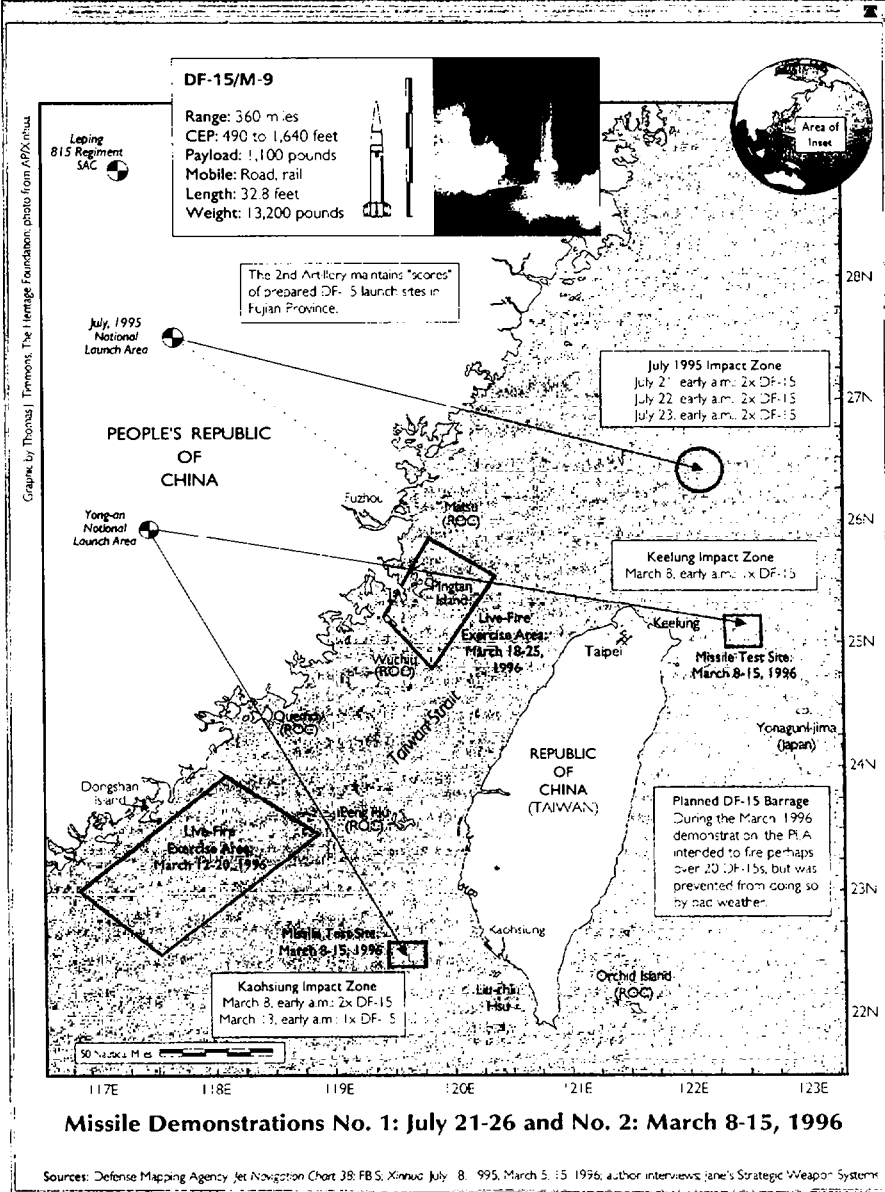
in Japan, the RC-135S Cobra Ball and/or the RC-135U Combat Sent, to monitor the tests.⁵⁴ To signal its concern over the March exercises the United States eventually deployed 14 combat ships to locations near Taiwan, including the aircraft carriers Independence and Nimitz, and an Aegis cruiser. The latter are slated to be modified with missile defense systems early in the next decade.⁵⁵ This was the largest U.S. show of force directed at China since the Straits crises of the 1950s.

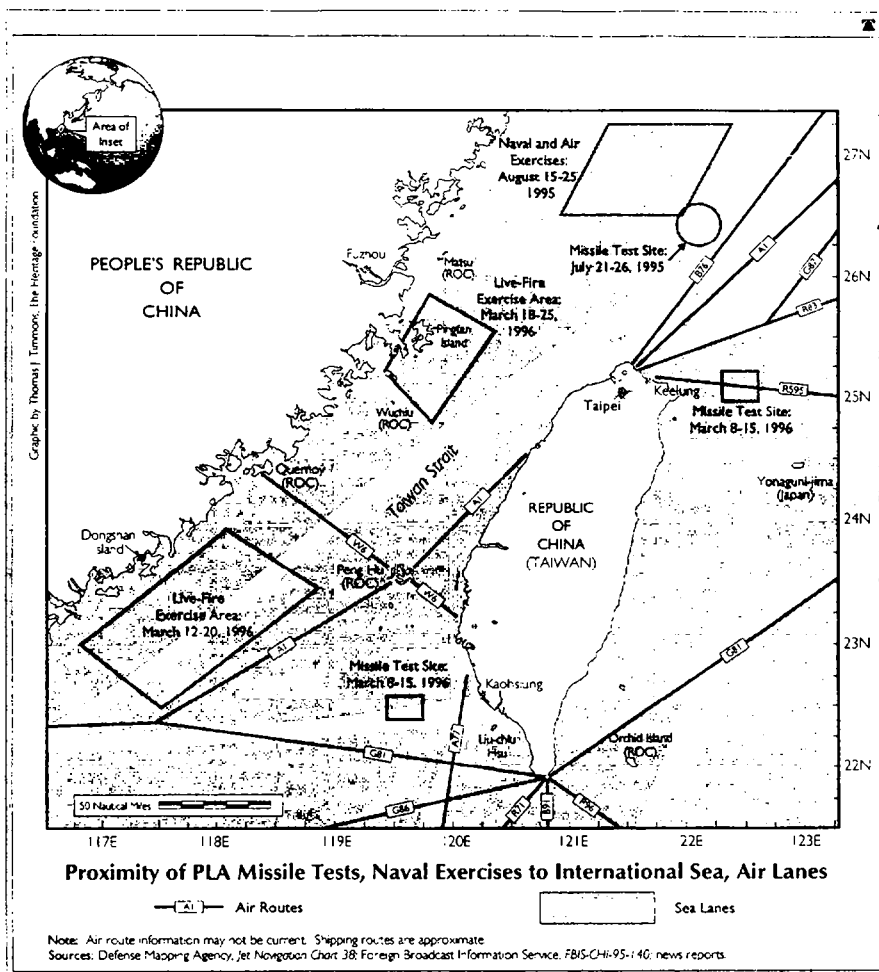
Missile defense debate

China's use of missiles in the PLA exercises also helped spark a mini election-year debate between the U.S. presidential candidates on missile defense in Asia. In a May 9 speech at the Center for Strategic and International Studies, Republican Party presidential candidate Robert Dole proposed a "Pacific Democracy Defense Program" which envisioned a missile defense network "that provides protection for people and territory from the Aleutians to Australia." Dole specifically proposed that Taiwan be included in this program and that the United States sell the Theater High Altitude Area Defense (THAAD) missile defense system to Taipei. Responding to Dole's proposal before the Pacific Basin Economic Council on May 20, President Clinton said that "we are meeting today's missile threats to the region. . ." and that the United States had recently reached an agreement with Taiwan "that will provide them with a theater missile defense capability." The Clinton Administration, in fact, merely agreed to accelerate by a few months the delivery of Patriot missiles originally contracted in 1993.⁵⁶

Backfire No. 4: Increasing regional interest in missile defense

China's missile tests also helped push others in Asia, especially Japan, to step up missile defense cooperation with the United States. Japan deployed one of its Aegis destroyers to the area of Yonaguni Island, a Japanese territory near the Keelung impact area.⁵⁷ Following the July missile demonstration it was revealed that the Japanese Defense Agency would request a "23-fold" increase in funding for theater missile defense programs.⁵⁸ And by coincidence, just after the beginning of the March missile demonstration it was leaked in a Japanese newspaper that Washington had agreed to provide Tokyo "strategic information" on missile threats gathered by U.S. satellites and





intelligence organizations.⁵⁹ China's increasingly aggressive posture has at least contributed to Japan's decision to upgrade defense cooperation with the United States this year and has been noted in the latest Japanese Defense Agency White Paper.⁶⁰

On March 12, the new Australian Foreign Minister, Alexander Downer, urged China to "exercise restraint" during the military exercises. While Canberra took pains to describe Australia as not being anti-Chinese, upgrades in U.S.-Australian military cooperation

announced during the July 26 ministerial could open the door to greater U.S.-Australian missile defense cooperation.⁶¹ Nurrungur-based intelligence satellite downlink capabilities, previously slated to be phased-out, reportedly will be shifted to Pine Gap.⁶² Among the possible new missions for Pine Gap will be assisting the defense of Israel from missile threats.⁶³ These functions could also contribute to the defense of Australia from Chinese missile threats. The new Liberal government can be expected to pursue missile defense cooperation with Washington; previous Labor governments refused initial U.S. offers of the same.

Military Significance of the Second Artillery Exercises

By using missiles in exercises during 1995 and 1996 the PLA sought to demonstrate a degree of military power that would impress both Taipei and Washington. Both exercises offered insights regarding possible nuclear and non-nuclear roles for the SA *vis-a-vis* Taiwan and even the United States. These exercises also may have allowed the SA to practice wartime tactics. But before reviewing these roles and tactics it may be helpful to examine in better detail the missile systems used during the two exercises.

DF-15

All 10 of the missiles fired during the two missile demonstrations were DF-15s, better known by their export designation, M-9. This missile is reported to have entered SA service in early 1990s. Its length is described as between 9.1 and 10 meters (32.7 Ft.) with a diameter of one meter. Its launch weight is 6,000 kg (13,227 lbs.) and it is said to have a range of 600 km (360 mi.).⁶⁴ Its payload is said to be a single 500 to 950 kg (2090 lbs.) nuclear or non-nuclear warhead. The DF-15's solid-fuel motor, which is safer for the launch crew than liquid fuels, reduces vulnerability by enabling a fast 30-minute launch sequence.⁶⁵

The DF-15 is a fully mobile missile system. It is transported on its own wheeled transporter-erector-launcher (TEL) that is based on a truck design, perhaps first seen in a picture released by *XINHUA* on March 15. This contrasts with the M-11 TEL that is based on the Russian MAZ 543 design. The picture indicates the DF-15 TEL may be too large for the 11 ft. wide cabin of the Illyushin Il-76 transport

aircraft China has recently purchased from Russia. For long distance transport the DF-15 most likely relies on railroads. The TEL truck, however, appears robust enough for moderate off-road travel. This capability was illustrated in Chinese television coverage of the 1995 and 1996 exercises.

Although previously thought to be a one-stage missile, the DF-15 is more recently described as having two stages. A smaller warhead stage, plus a camouflage effect caused by the remaining first stage, and the use of small warhead thrusters which may be able to change trajectory, are all said to make interception more difficult for Patriot-type anti-tactical ballistic missiles (ATBMs).⁶⁶ It is possible that China has been able to improve the DF-15's guidance and defensive systems based on knowledge gained from Patriot technologies believed to have been obtained from Israel.⁶⁷

According to informed sources, this latter factor may have been partially responsible for the DF-15 having demonstrated a much greater degree of accuracy during the March firings than previous estimates.⁶⁸ If these old estimates of a Circular Error Probability (CEP) of 300 meters were true then the DF-15 was already among the most accurate battlefield missiles in its class. New estimates put CEP as low as 150 meters and as high as 500 meters. This compares to a 1,000 meter CEP for the SCUD B missile. The computerized guidance system on the DF-15 is known to be able to correct for wind variations, which contributes to a fast launch sequence.

Also enhancing the rapid employment and survivability of DF-15s, the PLA has constructed "scores" of prepared launch sites in Fujian Province. These sites consist of surveyed areas and poured concrete launching areas that are presumably aligned for strikes against Taiwan. By constructing a large number of launch sites the SA complicates the interdiction of its DF-15s thereby assuring their ability to strike Taiwan. One source expects China to produce "hundreds" of DF-15s at a unit cost of less than \$1 million.

S-300P/HQ-9?

The new long-range SAM seen in the March exercises is variously reported as the S-300P (SA-10) that China purchased from Russia or a new indigenous Chinese SAM, the HQ-9.⁶⁹ According to one knowl-

edgeable U.S. source the SAMs used in the exercises were indeed S-300s. Chinese television coverage of the recent exercises featured launches of the S-300 though it is not clear that the missiles hit targets. Initially China may deploy its S-300s in an air-defense mode around Beijing, plus Wuhu and Suixi Air Bases.⁷⁰

Of interest to this study is the potential limited ATBM capability of the S-300P. Its Flap Lid guidance radar can engage up to 6 targets out to 60 miles.⁷¹ The S-300P's command post can control six missile batteries, and can prioritize threats and identify up to 100 possible targets. The missile can intercept targets at speeds up to 1.16 kilometers per second, slightly faster than a SCUD B missile, and has been tested in this mode.⁷² It is not known whether China has tested its S-300Ps in an ATBM mode. This capability would be useful against current or future Taiwanese or U.S. short-range missiles. But its real utility would be against U.S. weapons that would likely attack mobile missiles: cruise missiles and larger short-range precision guided munitions (PGMs) like the AGM-130—an increasingly important component of the United States strike inventory.

Doctrine and Missions: Concluding a Debate?

China's use of missiles during the July and March exercises provides some insights that assist a long debate over the doctrine and missions for China's strategic missile forces. One pole of the debate generally contends that China's nuclear doctrine is driven by its No-First-Use (NFU) pledge and the "minimum deterrence" strictures of being retaliatory, "counter value" and having a small weapons inventory.⁷³ A recent article marking the 30th anniversary of the SA states, "...China has solemnly pledged to the world: We will never be the first to use nuclear weapons at any time or under any circumstances. Therefore, gaining mastery by striking back only after the enemy has struck has become the only choice for China's strategic guided missile force."⁷⁴

A possible affirmation of the retaliatory mission is described in the same article: the completion last year of a decade-long project that apparently is a large missile base inside a mountain that could contain many ICBMs. A more survivable base for liquid-fueled ICBMs, presumably, better ensures their availability after an initial attack. Little to nothing has been publicly revealed about such a base from

Western or U.S. government sources.⁷⁵ That such a base might exist is plausible given China's well-known penchant for placing large defense concerns underground.

Had the SA used two medium-range missiles on the morning of July 23 last year, that could have been construed as exercising the deterrent or retaliatory function of the SA. Such medium-range missiles could also reach all major American military installations in South Korea and Japan and their use could have demonstrated China's ability to retaliate if the United States used nuclear weapons in support of Taiwan. That medium-range missiles were not used could have demonstrated that Beijing was injecting an element of caution in its otherwise bold demonstration of missiles.⁷⁶ However, having used nuclear capable short-range missiles in a threatening manner against Taiwan, Beijing could also be said to have put others, including Washington, on notice that it has the option to employ even longer-range missile systems.

On the other hand, far from limiting itself to a Mao-inspired "minimum deterrent," many analysts have long contended that China envisions a flexible use of nuclear weapons for deterrence and warfighting along the spectrum of warfare.⁷⁷ This perspective has been strengthened by Alastair I. Johnston's analysis of recently-obtained limited-circulation PLA military journals and books. He contends that a great deal of debate within the PLA concerning strategic doctrine has produced a significant distinction between concepts of "minimum deterrence" and "limited deterrence," with the latter including war-fighting characteristics.⁷⁸

Johnston cites Chinese strategists who contend that if deterrence breaks down, one must resort to the use of nuclear weapons to deter further escalation. For other strategists, Johnston adds that this means "having the ability and will to do everything from intimidating the enemy through deployments, exercises, and tests, to selectively injuring the enemy and incrementally increasing psychological pressure on it, to irreparably damaging its ability to fight, escalate, or prolong nuclear war."⁷⁹ Furthermore, Johnston cites strategists who list possible missions for China's strategic missile forces. These missions include: striking enemy strategic missile bases, weapons stockpiles, naval and air bases, troop concentrations and strategic reserves; political and military communications centers; strategic warning and defense centers; strik-

ing selective political and economic centers to foment chaos; and using warning strikes to undermine the enemy's use of nuclear weapons.⁸⁰

Considering the debate over China's nuclear doctrine, it is readily apparent from China's use of missiles during the two demonstrations that, indeed, China does envision a range of uses and missions for its strategic missile services. China may also envision a range of missions for its strategic missile forces that would entail use of non-nuclear weapons. A recent Russian analysis of China's nuclear strategy notes China's decision to employ non-nuclear armed missiles follows from the need to concentrate on "Local Wars," their assessment of the increasing utility on non-nuclear missiles in the U.S. and Russian arsenals, and their usefulness in possibly forestalling nuclear escalation.⁸¹ The missiles used in the two demonstrations carried inert warheads but were nuclear capable systems. The only definitive conclusion this offers is the need to consider both possibilities. Likely uses and missions could include:

Pre-emptive warning

In both the July and March exercises the SA used missiles as a prelude to other military activities. The July 1995 demonstration preceded naval and air exercises by about 20 days while the March demonstrations preceded by about four days. In future confrontations with Taiwan, it is possible that China may precede conventional military operations by missile strikes in non-combatant zones designed to shock the Taiwanese population and to warn off expected American support. It cannot be discounted that Beijing would use a nuclear warhead in such a future demonstration if it believed Washington could be frightened sufficiently to forego defensive support for Taipei.

Pre-emptive strikes

The fact that both demonstrations preceded wider military exercises raises the possibility that China might precede the general naval and air operation of an invasion with either nuclear or conventionally armed missiles. The likely targets for missiles might include ports, airfields, shore and air defense emplacements, ground force concentrations, communication nodes, fuel storage areas, and select urban areas.

Counter-value and counter-force

The demonstrations also indicate that instead of just attacking "soft"

or “counter-value” targets like cities, China might consider attacking military or “counter-force” targets. If one assumes that the July, 1995 impact zone is on a circular target ring with Taipei, that city could be an implied “soft” target. Just as likely, targeting zones outside of Taiwan’s two largest ports points to an inclination to attack targets of military value.

War fighting

The use of missiles as a political tool, and the manner in which they were used both before and during other military exercises, should end the argument that the purpose of China’s strategic missile force is simply limited to a retaliatory “minimum deterrent.” Indeed, the use of missiles as a prelude to wider military operations last July, and at the same time as air and naval exercises in March, suggests that China has thought deeply about a range of possible uses for long-range missiles during wartime. This notion probably likely pertains to non-nuclear as well as nuclear missiles.

Absent the expectation that Washington would come to Taipei’s aid, Beijing could mount a campaign against Taiwan using only non-nuclear armed missiles. Such a campaign need not lead to an all-out invasion. China apparently also contemplates more limited goals such as harassment and blockade. Regarding a possible campaign of harassment Charles Freeman wrote in the *New York Times*, “The Chinese Army has made plans, including carefully selected targets for missile attacks, to carry out such a campaign.”⁸² An article from a November 1995 issue of in *Zhanshi Bao*, a newspaper of the Guangzhou Military Region, observed that guided missiles are “superior” weapons for “limited war” missions like blockades or limited attacks. The author also highlighted the need to defend against missiles and called for attaching importance to the study of warfare “with guided missile warfare as the main form of operations.”⁸³ With the caveat of this being a region-level newspaper, and that the author could have merely been stating *his* opinion, the coincidence of his having presaged possible missions demonstrated during the March exercise is noteworthy.

For China, missiles can compensate for the relative inferiority of its air forces against those of Taiwan, a condition that may persist for some time. The ability to rapidly reload a missile, apparently demonstrated in March, points to the possibility that the PLA considers operations

involving the launching of many missiles. Though today the PLA may lack sufficient numbers of DF-15 or DF-21-class missiles to sustain a long barrage against Taiwan this could change in the future. As the PLA is able to build long-range missiles with greater accuracy, it will likely prepare to employ them against smaller targets and closer to the forward edge of battle. Provided the SA has enough of them, DF-15s armed with high-explosive, cluster or even chemical warheads could attack SAM sites, airfields, naval bases, and ports, and enhance a naval barrage against an amphibious landing site.

Counter-naval strikes

China's choice of splash-down zones in all three cases raises interesting implications for both the Taiwan and U.S. navies. The July 1995 zone could represent a possible staging area for a U.S. aircraft carrier task group, and the March 1996 zones could represent possible areas of concentration for defending Taiwan's naval forces. Provided sufficient real-time targeting data, it is well-known that a nuclear air-burst can destroy vessels in a limited area and that the electromagnetic pulse (EMP) from the explosion will incapacitate sensitive, unprotected electronic systems over a much larger area. Today the PLA could transmit targeting data from a submarine or a fishing vessel, and in the future possibly from satellites. If incapacitated electronically, naval forces are much more vulnerable to submarine or air attack. Potential PLA use of its nuclear missiles in this manner is not farfetched; it has been noted that the Soviets may have intended to use their ICBMs against U.S. carriers.⁸⁴

Independent and joint operations

China's SA prepares for both independent and joint operations. The former is implicit in the nuclear retaliation mission. Strikes associated with a wider campaign require planning at the theater, front, or even lower levels of command. Inasmuch as the July 1995 demonstration preceded other military operations by at least 20 days it is very likely the SA was exercising its independent operational capability. Last March it is likely that at the very least, the SA was subordinated to the Nanjing Theater Command and integrated into the exercise schedule. But even in this demonstration it appears that "coordinated" rather than "joint" better describes the operational employment of the SA. Missiles were fired into locations far from air, naval and amphibious

exercise areas. However, if a Yong-an launch area is assumed for the March 8 shot into the Keelung impact zone, the missile conceivably may have passed over Pingtan Island. In addition, it is not known if other services supported the SA during the March exercises. For example, if one assumes the S-300P SAMs were deployed in an area defense mode to support the amphibious exercises then they likely were not available for defense of DF-15 missile batteries.

One development noted in the recent exercises was the use of fiber-optic cables to link SA units in the field with central commanders. This certainly points to advances in data transmission that may improve their command and control might enable those commanders to have much better knowledge of SA forces and actions. Fiber-optic cables also are inherently more secure than radio or microwave links.

Concealment

After the July demonstration an article appeared describing techniques used by the SA to conceal their forces during night operations. Noting the vulnerability of SA equipment and vehicles, the article listed concealment tactics to include use of night operation, and use of fake positions, targets, and heat sources.⁸⁵ These methods may have been practiced in connection with the July and March demonstrations. According to one source not all missile-related activities were observed, such as transit activities. However, another source cautions that many activities were obscured by weather. Other missile-related activities were not effectively concealed.

To a certain degree the PLA wanted to showcase the SA for Washington and Taipei. While nighttime operations offer some degree of concealment, especially if conducted from foggy ravines that block low-light enhancing sensors, they also accentuate the missile's infrared signature due to greater temperature differences between the missile exhaust and the air. The rapid launching sequence, conducted most likely on the morning of March 8, was apparently intended to be seen. A Taiwan report appears to indicate that missile telemetry transmissions were intercepted for later analysis.⁸⁶

Possible Future Trends for PLA Missile Forces

China is pursuing improvements in its missile forces in discrete loca-

tions that raise additional organizational and doctrinal questions. Others have noted that possible future developments include new long-range missiles, multiple nuclear warheads, better tactical missiles, long-range cruise missiles, making greater use of space-based assets, and missile defense.⁸⁷ Some of these advances may stem from the vast sums China has invested in its own technological base to build strategic weapon systems for the future. One source said that China's space and missile sector may employ over 200,000 in development and construction. Technology campaigns like the "863" Program, for example, targeted seven specific technologies of which materials, information, robotics, space and lasers are relevant to future weapon systems. As in other areas of military technology China seeks self-sufficiency but also is working to exploit possible foreign short-cuts. In this connection, one U.S. source believes that despite the apparent incompatibility of Chinese, Israeli and Russian missile technologies, China is demonstrating an increasing ability to meld these sources to improve its weapon systems.

The Russian Connection

China regards Russia as a key source of technologies to aid its military modernization effort.⁸⁸ Nevertheless, it is difficult to assess either the breadth of Russian strategic technologies that have been made available to China or the degree to which China has been able to assimilate them. However, a relationship which began in the early 1990s, out of Russian desperation and Chinese convenience, is acquiring almost alliance-like overtones. During their April 23-26, 1996 summit, both sides announced a "a new strategic partnership" and signed a communiqué condemning "hegemony," meaning U.S. primacy in Asia. The potential for this relationship apparently also impressed former Russian Security Council Secretary Alexander Lebed. In late June, *INTERFAX* published a document allegedly drawn up by Lebed in which he proposed that "Russia should step up efforts to find potential strategic partners in the far abroad. . . . Russia should study closely different versions of cooperation with the countries of the Pacific Basin, including China. . . ."⁸⁹ This raises the possibility of multiple forms of military cooperation short of employing forces.

Meanwhile, despite the groundwork laid by official arms sales, summits and cooperation agreements, it is increasingly apparent that

Russia is prostrate and China is practically robbing the store.⁹⁰ Russia's military industries are increasingly reliant on sales to China and the latter is using its leverage to extract—by sale or by hiring talent—advanced military technology. A recent Russian report, if true, about how China secured the production license for the SU-27 from the Sukhoi design bureau—apparently without government oversight—thus forcing its ultimate approval, is a disturbing example of what may be happening in many other corners of the Russian military-technical complex.⁹¹ Chinese access to Russian military design bureaus is extensive and U.S. sources assume that China is obtaining a great deal of high-tech knowledge directly from the bureaus. China's recruiting is intensive, hundreds, if not thousands of Russian technicians, are in or have been in China's employ. Indeed, a recently leaked Defense Intelligence Agency report on Russian tech transfers notes that "much missile and other arms-related technology" flows outside official channels, from design institutes, and that Russia "has made no discernible effort to curtail these exchanges."⁹²

Israeli Technology

Since the late 1970s or early 1980s, Israel and China have built a substantial military-technical relationship. Driven by a quest for sales and a desire for access to the Chinese leadership, Israel has become, probably second only to Russia, as a source for key military technologies. Israel and Russia, in fact, are competitors for the PLA market as illustrated by recent reports of their competing to sell Airborne Early Warning (AEW) radar systems to the PLA.⁹³ While information on the extent of Israel's military technology relationship with China is limited, this relationship appears much more controlled than the Russian situation. The United States has a keen interest in this relationship due to stemming from repeated instances in which Israel has sold U.S.-derived or subsidized technologies to China.⁹⁴ This Israeli technology, as previously noted, already may be helping China to improve its missile systems.

Dual Use Opportunities

In the absence of the Coordinating Committee on Export Controls (COCOM), it is in increasingly difficult to monitor U.S. and European

trade that could yield technological short-cuts to China strategic missile forces, not to mention Russia and Israel. Commercial satellite services, high-tech communications companies, and advanced electronic companies are vying for a share of China's market and China can be expected to choose wisely.

Equipment Trends

There are well-known equipment and capability trends in addition to those that are less clear but worthy of comment. These include:

Guidance systems

One U.S. source notes China may be experimenting with using GPS to assist existing inertial missile guidance systems and with Terrain Contour Matching (TERCOM) like digital map guidance systems.⁹⁵ Last year, the commander of U.S. Pacific Air Forces, General John Lorber, revealed that China is using GPS on one of its ballistic missiles, although he said it would take another 10 years for China to build true precision munitions.⁹⁶

However, China may be moving much faster. At the November 5-10 airshow in Zhuhai, China, an engineer from the Beijing Research Institute for Telemetry, an organization working on advanced guidance systems, said that the DF-15 was being modified with GPS technology.⁹⁷ A combined GPS/inertial navigation system would be most useful during the boost-phase of the missile's flight, when the majority of guidance errors occur. A recent article by Chinese missile engineers regarding a combined GPS/inertial guidance system notes: "Preliminary computation aimed at improving a certain ballistic missile shows that this integrated guidance scheme can raise impact accuracy about one order of magnitude."⁹⁸ The article does not specifically cite how much of an improvement in accuracy this represents for any missile. It is possible that it may mean that a 300m CEP DF-15 could potentially have a 30m CEP.

A recent report notes that the Israeli company Aquimius will provide GPS monitoring and tracking to assist "automobile tracking."⁹⁹ But as the recipient of this technology is the China National Aero-Technology Import-Export Co. (CATIC) it is reasonable to assume that it could be used to enhance missile guidance. Israel is said to have helped China improve the accuracy of the earlier DF-3, but to what

degree is not known.¹⁰⁰

The Beijing Institute engineer also said that they were working on a terminal guidance system for the DF-21 IRBM. Sources in Taipei noted that this new guidance system would be radar based, and thus, similar to the U.S. RADAG system used in the defunct Pershing II IRBM. The Pershing II is said to have a 50 m CEP over a 1,000-mile range.¹⁰¹ A Chinese RADAG system could conceivably do almost as well. It is possible that a RADAG warhead also could be developed for the older DF-3 IRBM. Selling this warhead to Saudi Arabia, which already has the DF-3, might be one way to improve this missile, and avoid selling a new missile that would violate MTCR restrictions.

Space systems and communication

The quest for better weapons guidance and accuracy drives investments in other areas like satellites, sensors, communications and computers. China is reported to be building its own "Twin Star" GPS system for launch in 1998. The "Twin Star" will use two satellites to provide locations within 20 meters.¹⁰² A third satellite would be needed to provide three-dimensional location fixes useful for mid-course missile and munitions guidance. American GPS signals may enable a much greater level of accuracy for military users, but for cluster munitions, 20 meters may be sufficient. A source notes that China is interested in purchasing as many as four Russian GLONASS GPS satellites, and that China is developing receivers that can use signals from U.S. and Russian GPS systems.

China is also known to be working on a successor to its Dong Fang Hong FSW-2 spy imaging satellite.¹⁰³ This film-based satellite is said to only have 10 meter resolution when a 1 m resolution has long been achieved by U.S. satellites.¹⁰⁴ Chinese engineers have revealed a project to build a 550-lbs. imaging satellite that would have a 1.5 m resolution from an altitude of 390-miles.¹⁰⁵ One source said that China is also interested in obtaining its own downlink for faster use of France's SPOT imaging satellite. China may obtain better real-time access to commercially-available high-resolution images as competition mounts between Russian, European, Indian, and in the future, Israeli and U.S. satellite imaging companies.¹⁰⁶

Related to a possible increased need for better digital map data for

a RADAG-like missile guidance system, China is expected to begin producing its own radar, remote-sensing satellite comparable to Canada's Radarsat and the European ERS-1/2 satellites. This will be a \$250 million project and Britain's GEC-Marconi and Germany's DASA companies are said to be interested in participation.¹⁰⁷ Beijing has had its own downlink for U.S. LANDSAT images for many years.

China's manned space program, which seeks to put astronauts in space by the year 2000, could also yield benefits for military systems.¹⁰⁸ China is receiving Russian assistance in building its first two-man space capsule and in training its astronauts. And looking toward the future, China is interested in both civilian and military uses for "Lightsats," which figure largely in U.S. plans for advanced military systems.¹⁰⁹

Increased use of fiber-optic links opens the door to greater use of digital command and communication systems. Increasing these links between SA bases and central command authorities alone will enhance communication abilities and make them more secure. A number of commercial sources could improve combat displays. Perhaps pending AEW systems, be they from Britain, Israel or Russia, could provide knowledge necessary to begin linking disparate satellite, data and display systems so as to assist any future move to decentralize command over missile forces.¹¹⁰ The latest version of one such system reportedly sold to China, the GEC-Marconi Searchwater AEW radar, is compatible with the U.S. Joint Tactical Information Distribution System (JTIDS). This system links disparate ground and air sensors to provide individual aircraft or ships a display of their immediate combat situation—greatly assisting joint operations. This is not to suggest that GEC-Marconi has any intention to compromise this U.S. system. However, China's interest in obtaining a JTIDS capability cannot be discounted.

New ballistic missiles

Existing programs such as the DF-31 and DF-41 intercontinental ballistic missiles (ICBMs) and JL-2 sea-launched ballistic missile (SLBM) will likely enter service after 2005. The later's future, of course, is dependent on the completion of a new class of ballistic missile submarine (SSBN). The DF-31 and DF-41 will be solid-fueled, may have multiple warheads, and are likely to be road mobile. These missiles may carry multiple warheads that may not be independently

targetable.¹¹¹ China, however, is working on an indigenous multiple independently targeted reentry vehicle (MIRV) capability and could obtain this technology from Russia. In May it was revealed that China is trying to purchase components of the SS-18 ICBM from Russia and the Ukraine, ostensibly for commercial launch purposes.¹¹² The report says the deal was discussed by CMC First Vice Chairman Liu Huaqing when he visited Moscow in December. Defense Secretary Perry strongly criticized Russia and the Ukraine for the sale. The DIA report noted that adding SS-18 guidance or warhead technology would "greatly improve" China's ability to "threaten targets in the United States."¹¹³ Even if the Clinton Administration succeeds in stopping this sale, the danger of Russian ICBM technology leakage to China will persist.

Reportedly tested in May 1995, development of the DF-31 ICBM began in the early 1970s, when the decision was made to build its JL-2 SLBM counterpart.¹¹⁴ This missile is probably slightly larger than the DF-21 IRBM, accounting for an estimated 8,000 km (5,000 mi.) range. The DF-31 may compliment or replace the earlier DF-21.

As mentioned earlier, China is improving the DF-21 IRBM. The DF-21 is said to have been operational since 1987 with a range of 1,800 km (1,120 mi.). According to sources in Taipei, in addition to RADAG-guided warheads, newer versions could have an extended range to 2,900 km (1,800 mi.). These newer versions later, when developed, may be able to hit small targets as far away as Guam. The DF-21 is road and rail mobile. The TEL is a tractor-trailer truck that carries a launch canister from which it is expelled by compressed air. However, while the missile canister may be able to fit into an Il-76, the same is not probable for the TEL. In all, five vehicles are needed to transport and launch the DF-21, which increases the vulnerability of this missile.¹¹⁵ In 1994 there were an estimated 30-50 DF-21s.¹¹⁶ At a conservative annual production rate of 10 there may have been as many as 70 in 1996.¹¹⁷

In addition, new Russian short-range ballistic missiles could be purchased by the PLA, and/or inspire new Chinese tactical missiles. Russia is now marketing its SS-21 "Tochka-U." This battlefield missile has a 72-mile range, a 524 ft. CEP, and is air and road mobile.¹¹⁸ Last year Russia revealed its "son of SCUD," designated the SS-X-26 by the West. This 180-300 mile range missile may use one or a combination of systems to provide terminal guidance, such as millimeter wave radar, GLONASS

inputs, or an improved inertial guidance system.¹¹⁹ This missile may also employ a “shaped trajectory” that makes it more difficult to estimate its launch site for counter-battery strikes. Another terminal guidance option might be an optical missile guidance system based on a digital-map TERCOM-like system developed in the early 1980s. It was tested on a SCUD but was not adopted by the Russians.¹²⁰

New cruise missiles

China is probably developing smaller and longer-range cruise missiles. They are cheaper to build than ballistic missiles and are able to use multiple launch platforms. These new cruise missiles could be tasked with tactical or strategic nuclear missions inasmuch as China may also be building nuclear warheads small enough for a cruise missile.¹²¹ The turbojet engine of the C-802 offers opportunities to extend the 72-mile range of this missile. It was reported in February that researchers at the Northwest Industrial University had build a new prototype “mini-turbojet aircraft engine” for use in drones and cruise missiles.¹²² While engine specifications were not revealed, the report illustrates a continued effort to improve cruise missiles. While likely employed only in an anti-ship role, the C-801/802 are reportedly part of the armament for three of the Han-class nuclear attack submarines. They are said to be placed aft of the fin inside a 25-ft. hull extension.¹²³

Russian technicians reportedly helping China build its new nuclear-powered attack submarine may also be a source for helping China to integrate more compact cruise missiles into submarines. Sources in Taipei state that Russia is marketing its Raduga bureau 160-mile range Kh-65 SE air-launched cruise missile. It is a shorter-range version of the Kh-55 (AS-15 Kent) strategic cruise missile and is said to have inertial/radar guidance systems.¹²⁴ If China purchased this missile it could probably increase its range.

A 1995 report cited Taiwan official and PLA expert Dr. Chong Pin Lin as saying that China had recruited a whole Russian cruise missile development team in 1993, and moved them and related production equipment to the Shanghai area.¹²⁵ The report does not identify the cruise missile in question but does mention the AS-19. This missile, and its development team, is available for export because the NPO Machinostroenia bureau, having made a prototype, did not win any

orders from the Russian military. The AS-X-19 is said to be the air-launched version of what started as a long-range submarine-launched cruise missile, most likely for the Oscar-class SSGN. While the PLA Navy does not have a sub that can accommodate a cruise missile this large, it could be a source of useful technology. Reportedly, its ramjet engines and terminal guidance system allow for a diving attack from 70,000 feet at Mach 3 speeds.¹²⁶

A knowledgeable U.S. source doubts that China has imported this missile. It may be an instance in which the Chinese may have received only data from the design bureau. Arguing against a sale of the AS-X-19 is that fact that NPO Machinostroenia is developing a range of smaller, and thus more useful, ramjet-powered missiles potentially more attractive to China.¹²⁷

A more likely source for advanced ramjet engine technology will be the Raduga P-80/P-270 Sunburn cruise missile that will accompany the two Sovremennyy missile destroyers China is reported to have purchased from Russia.¹²⁸ Designed to counter U.S. Aegis radar-equipped ships, the Sunburn has a wave-top speed of Mach 2, and a range of up to 150 miles. Russian ramjet technology might allow the PLA to produce smaller long-range Mach 3 missiles for varied naval, ground attack or anti-air missions.

Finally, in addition to other contributions that could benefit China's cruise missile program, Israel is reported to be developing a cruise missile with Chinese financial support.¹²⁹ It is believed to be a land-attack version of the Delilah anti-radar drone. This missile is turbojet-powered and can carry a 990 lbs. payload about 240 miles. It reportedly may also be fitted with a penetrator warhead to attack hardened targets.¹³⁰ The Delilah is described as having guidance accuracy of 300 ft. and a high sub-sonic speed. Another source notes that this missile may have satellite/inertial navigation systems and an imaging sensor which may confer even greater accuracy.¹³¹ The Delilah has a fixed wingspan of 1.15 m (3+ ft.). If its wings could fold, its body diameter of 330 mm would fit into the standard 533 mm torpedo tube used by the PLA Navy.¹³² The STAR-1, which may be related to the Delilah, is said to have incorporated "sensitive U.S. technology" and the State Department is said to have "expressed concern" to Israel.¹³³ It is not known publicly whether China has received this missile.

Anti-missile, Anti-satellite Programs

China's opposition to missile defense, especially U.S. missile defense schemes, has been well-stated both publicly and privately.¹³⁴ But regarding its own interest in missile defense or anti-satellite systems, China remains quiet. China may have had an anti-missile program in the 1960s that was suspended due to the Cultural Revolution. Articles by engineers of the SAM-producing Second Academy indicate that both anti-missile and anti-satellite programs may be underway.¹³⁵ China clearly would have an interest in SAMs that could defeat cruise and ballistic missiles or satellite systems. Such a capability would counter future high-tech U.S. weapons systems capable of attacking mobile SA missiles. When China begins to market its own anti-missile system its public tune may change.

China took a major step toward a missile defense capability in 1991 when it purchased a reported 100 S-300P SAMs. Too small a number to be militarily useful, this missile and its phased-array radar are probably used for testing and research.¹³⁶ While the S-300P has an inherent anti-cruise missile capability, in an anti-tactical ballistic missile (ATBM) mode, this system can only provide point-defense.¹³⁷

And as previously mentioned China is developing the HQ-9 long-range SAM.¹³⁸ One published source says the HQ-9 draws on both stolen U.S. Patriot missile technology and S-300P technology.¹³⁹ Other U.S. sources note that the HQ-9 is indeed a mish-mash of indigenous, Russian and Patriot-derived technologies. Its phased-array radar is said to be based on the Flap Lid radar of the S-300P. Development of the HQ-9 may have started 5-7 years ago; a relatively short development cycle by Chinese standards, raising the possibility of foreign technical assistance. However, if the HQ-9's capabilities are comparable to the S-300, it too may only be able to provide at best a minimum point-defense ATBM capability.

Upgrading the PLA anti-missile capability using Russian technology includes improved versions of the S-300. For example, the S-300V (SA-12) is said to be better than the Patriot PAC-2. The SA-12b has a maximum range of 60 miles at speeds up to 2.4 km/sec allowing the SA-12b to intercept most U.S. cruise missiles, stand-off PGMs and the ATACMS battlefield missile.¹⁴⁰ It is conceivable that for the right price, Russia might also provide China satellite cueing in order to

better determine a target fix and use the missile's maximum range.

An Israeli commentator recently touted the U.S.-subsidized Arrow as better than the U.S. Patriot or the THAAD missile now in development.¹⁴¹ The commentator noted that, "Arrow is creating interest among several governments, mainly in Asia and the Pacific Rim, whose security is threatened by neighboring countries armed with ballistic missile and nuclear weapons."¹⁴² While the Arrow could be of interest to several countries, including Taiwan, past Israeli missile cooperation with the Mainland is not reassuring.

Lasers

A recent *Jiefangjun Bao* article examined a range of laser technologies that could be used for military purposes, including carbon dioxide gas dynamic, free electron, chemical, excimer and x-rays. The article notes that particle beam lasers can be used as "hard killers" that destroy targets or "soft killers" that merely disable. High-energy microwave weapons are also useful in disabling electronic components of missiles and aircraft.¹⁴³ Microwave and particle beam weapons may also be useful in disabling satellites overhead. Chinese engineers appear to be quite familiar with current U.S. military laser developments.¹⁴⁴

The possibility of a Chinese "breakthrough" in military lasers is a concern for some U.S. observers. From their designation as an investment priority in the "863" Program, these observers note a continued high priority attached to lasers, to include active recruiting of Russian laser specialists.

CONCLUSIONS

Implications of a More Capable Missile Force for the PLA

PLA efforts to improve its missile forces will both influence and, in turn, be dependent upon the PLA's ability to integrate disparate technologies and to create organizational changes that allow for the efficient employment of new systems. The quest for greater missile accuracy, for example, depends upon the use and possible integration of new technologies like high-resolution reconnaissance satellites, GPS and terminal guidance systems. And, moving from point-defense anti-missile systems to longer-range area defense will require a much greater

satellite observation and computerized control capability than is offered by a S-300P level of technology. Foreign technology shortcuts may be available to China. However, such shortcuts may be difficult, expensive and time-consuming for the PLA.

New technologies will prompt organizational challenges. Better accuracy for missiles and cruise missiles will increase the number of missions that can be performed by these systems thus creating opportunities for the Army, Air Force and Navy to share more missile strike missions with the SA. Likewise, should the PLAAF deploy a better ATBM-capable SAM, perhaps the SA and Navy will press for control of their ATBM systems to protect mobile missiles and naval forces. The recent exercises which were designed to emphasize "jointness" do not appear to suggest that the PLA has decided to diversify control of tactical missile missions. This can be justified as long as the number of missiles in the inventory remains small and their accuracy is poor enough to limit their usefulness, especially in conventional warfare missions. However, if organizational reforms do not follow, that more accurate missiles and cruise missiles may be used in an inefficient or less-joint manner may not reduce the task of the defender.

In the next decade the United States can expect the PLA to continue with known strategic systems like the DF-31 and DF-41. Medium range systems like the DF-21, if they are not replaced with smaller more mobile missiles, may at least start carrying much more accurate RADAG-guided non-nuclear warheads. Such RADAG systems would place most, if not all U.S. military facilities in East Asia within range of Chinese non-nuclear, highly accurate missiles. The PLA missile challenge will become more complex at the tactical and cruise missile level. Tactical missiles of the DF-15 class may benefit from Russian advances in terminal guidance and in defensive maneuvering. Expected GPS/inertial guidance can also make the DF-15 a much more potent threat, especially to Taiwan. Russian and perhaps Israeli inputs can be expected to yield a useful long-range cruise missile comparable to early U.S. Tomahawk missiles. China could use these new cruise missiles on ships, submarines or aircraft. China also could build much larger warships armed with DF-15 class ballistic missiles, long-range subsonic or supersonic cruise missiles, and much better SAMs, that could perform naval or strategic strike missions.

It is also logical to expect the PLA to acquire more and better SAMs with growing missile defense capabilities. Such systems, of obvious utility to conventional forces, would also be necessary for defense of mobile SA units. This also points to a growing interest in strategic ground or space-based defense systems. At the same time, China can be expected to seek information to counter U.S. ballistic missile defense systems.

China can also be expected to field, or obtain foreign technology to build its own GPS and high-resolution reconnaissance satellites that contribute to upgraded command, control and targeting capabilities. These systems will also be instrumental in extending the range of missile defense systems that the PLA builds, or obtains from foreign sources. Possible employment of "Lightsats" raises implications for employing far more sophisticated, digitally linked, communication and command facilities in addition to being able to guide a wider variety of non-nuclear weapons with much improved accuracy. By the end of the next decade, the PLA's missile forces may not constitute the "the main form of operations" they may be at the cutting edge of China's power-projection forces.

A Suggested American Response

A significant part of the U.S. response to China's looming political-military power should be measures designed to deter China from using its increasingly capable nuclear and conventional missile forces. This requirement is only sharpened by the statement of China's Disarmament Ambassador and chief arms negotiator, Sha Zukang, who said, ". . . As far as Taiwan is concerned, it is a province of China not a state. So the policy of no-first-use (NFU) does not apply." Recently China has been careful to hedge its NFU pledge as being mainly for "states." But Zukang's willingness to identify a specific exception to China's NFU, besides being provocative to Taiwan, reduces the credibility of the NFU pledge generally, if it was ever real to begin with. Such statements, plus what we can learn of evolving PLA nuclear and conventional missile doctrine and ongoing efforts to improve missile capabilities across the board, heighten the urgency of an American response. This response should have at least four dimensions:

No. 1: Knowledge

The U.S. government should regularly declassify new information on

the PLA in order to allow for an informed public debate, here and abroad. Current open sources, especially on missile forces, are woefully dated. Some U.S. observers, however, note a wealth of open Chinese technical sources that would increase understanding of PLA trends if made available through FBIS. The latest DOD Authorization Bill conference report calling for increased Defense Department public assessments of the PLA is a positive suggestion.¹⁴⁵ Such openness will also influence on China's internal political debate as Chinese citizens come to realize how their government is prompting the creation of new threats to China.

No. 2: Defense

The introduction of advanced missile defense systems into Asia to defend U.S. Forces and allies and friends should proceed as soon as possible. It is preferable that U.S. missile defense initiatives in Asia be done with the understanding and support of our allies. The capabilities introduced initially, such as THAAD or Navy Lower and Upper Tier, should be previewed as substantially contributing to their defense. The United States also should field ship, airborne and space-based lasers to prepare for more elusive missiles. Japan and South Korea may be able to afford a broader degree of cooperation, to include purchase of defensive missile systems, and Australia should be encouraged to cooperate in the command and control area. The United States should also proceed with the development and fielding of multi-service, advanced, long-range, high-speed, precision-guided, non-nuclear missiles to sustain the technical superiority and, and thus, the deterrent capability of U.S. forces in Asia.

Providing Taipei with advanced missile defense systems is equally imperative. Despite the Administration's optimism, the promised Patriot missiles do not offer an assured degree of defense against missiles like the DF-15. The speed and the improving defensive capabilities of the DF-15 make it an increasingly elusive target. With satellite cueing and multiple firing, the Patriot has a chance against the DF-15. However, provision of satellite cueing requires real-time defense cooperation—a significant re-interpretation of the limits of the Taiwan Relations Act. In addition, the Patriot does not defend against longer-range missiles like the DF-21 or DF-3. If raw deterrence is to be sustained on the Taiwan Strait, it may be necessary, as Bob Dole suggested, to sell

Taipei THAAD, which will require satellite support. Capable of speeds up to 5 km/ sec., THAAD is able to defeat all PLA missiles save much higher speed ICBMs. Should China respond to this defensive move by increasing its all-around missile threat to Taiwan, the United States should be prepared to offer Taiwan advanced laser-based missile defense systems as it is now doing for Israel.¹⁴⁶ The alternatives include greater dependence on deployed U.S. forces, mainly naval missile defense elements, or letting Taipei fend for itself.

No. 3: Engagement

The latter notion should be a major element of Washington's diplomacy toward Beijing: your belligerence is forcing us both to defend ourselves and to defend you, China, from your mistakes. We should tell Beijing that, left without a conventional defense against missiles, Taipei may revisit its nuclear deterrent option—which is not in anybody's interest. Washington should also begin to formulate something of a grand bargain for Beijing. In exchange for verifiable commitments to transparency and limitation on China's part, the United States should, as it is doing with Russia, offer China benefits from Western strategic defense capabilities.¹⁴⁷ The goal should be to show Beijing that strategic missile competition will fail; adopting a balanced posture of offensive and defensive systems, combined with agreements that ensure confidence, results in stability beneficial to all.

No. 4: Prevention

China's belligerence heightens the need to stem technological short-cuts from our allies and friends that could improve China's missile forces. Even in the post-COCOM world it is necessary to respond vigorously to prevent select high-technology transfers that could significantly contribute to China's strategic forces modernization. The Russian problem is too far advanced to rely on the good offices of Boris Yeltsin. In addition to what leverage there is over the government, a public diplomacy campaign is needed to tell Russians their countrymen are feeding a future threat. Making a similar case to friends in NATO or Israel is fraught with political complications, especially in Washington. This issue, however, cannot be ignored and will make utmost demands on principled American leadership.

Notes

1. Many government and industry sources were interviewed to supplement meager open sources, leading to a semi-journalistic result. I wish to express my gratitude to those who contributed significantly to this study, but who also must remain anonymous. The conclusions are my own.
2. Statement in the August 12 international edition of *Newsweek*, cited in CNA, August 6, 1996, in FBIS-CHI-96-153, August 6, 1996.
3. *XINHUA*, 1013 GMT, July 18, 1995, in FBIS-CHI-95-137, July 18, 1995, p. 28.
4. *ZHONGGUO XINWEN SHE*, 1415 GMT, July 20, 1995, in FBIS-CHI-95-140, July 21, 1995, p. 1.
5. For more information on China's missile testing see: Robert S. Norris, Andrew S. Burrows and Richard W. Fieldhouse, *Nuclear Weapons Databook, Volume 5, British, French and Chinese Nuclear Weapons*, Natural Resources Defense Council, Inc., 1994, pp. 333-336 and 362-365.
6. U.S. sources do not agree with this timing. Sofia Wu, "Chief Says PRC Missiles Able To Reach Mainland," *CNA*, February 24, 1995, in FBIS-CHI-95-037, February 24, 1995, p. 90.
7. According to Tim McCarthy, Senior Analyst, Monterey Institute of International Studies, as stated in David A. Fulghum and Michael Mecham, "Chinese Tests Stun Neighbors," *Aviation Week And Space Technology*, July 31, 1995, p. 23.
8. Dennis Engbarth, "Military Sources on Launches," *South China Sunday Morning Post*, July 23, 1995, p. 1, in FBIS-CHI-95-141, July 24, 1995, p. 101.
9. The author has not found any cross-reference for SA organization at the regiment level. Hisahsi Fujii, "Facts concerning China's Nuclear Forces, 2nd Artillery Corps and 09 Submarine Fleet," *Gunji Kenkyu*, November, 1995, in FBIS-CHI-96-036, February 22, 1996, p. 35.
10. Nigel Holloway, "A Chill Wind," *Far Eastern Economic Review*, June 15, 1995, p. 15. One U.S. source told the author that the DF-31 missile test did not occur.
11. See: "Official Denies Report," *CNA*, 0131 GMT, July 4, 1995; "More on Denial," *CNA*, 0133 GMT, July 5, 1995; and Laura Tyson, "Chinese Military Maneuvers Prompt Jitters in Taipei," *Financial Times*, July 4, 1995,

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12. Ibid.
13. "Mainland Fires Two Dongfeng-21 Missiles from Jilin," *Lien Ho Pao*, July 25, 1995, p. 2, in *FBIS-CHI-95-145*, July 28, 1995, p. 19.
14. Ibid.
15. "Mainland Fires..." op-cit.
16. Ibid; "Mainland Launches 2 Guided Missiles 23 July," *Taipei China Broadcasting*, July 24, 1995, in *FBIS-CHI-95-143*, July 26, 1995, p. 60; Fulghum and Mecham, op-cit.; "Thunder Out of China," *Asiaweek*, August 4, 1995, p. 18; Bill Gertz, "Missile tests raise fear of Chinese aggression in Asia," *The Washington Times*, August 15, 1995, p. A1.
17. Fulghum et al., and Gertz; also see author, "Building A More Secure Asia Through Missile Defense," *Asian Studies Center Backgrounder No. 138*, October 24, 1995, p. 4.
18. China's only statement that added any clarity to this matter was an announcement that it had fired six missiles, see, *XINHUA*, July 26, 1995, in *FBIS-CIII-95-144*, July 27, 1995, p. 18.
19. "End of Missile Training Announced," *XINHUA*, 1006 GMT, July 26, 1995, in *FBIS-CHI-95-143*, July 26, 1995, p. 1.
20. "Possibility of Cross-Strait 'Conflict' Foreseen," *Lien Ho Pao*, August 25, 1995, p. 2, in *FBIS-CHI-95-165*, August 25, 1995, p. 34.
21. Wen Er Hsing, "Beijing Plans Air Force Exercise Targeting Taiwan with Precision Bombing," *Ming Pao*, November 29, 1995, in *FBIS-CHI-95-229*, November 29, 1995, p. 44; Willy Wo-Lap Lam, "Chinese military authorities have finalized strategy for taking over Taiwan...", *South China Morning Post*, November 30, 1995, in *FBIS-CHI-95-230*, November 30, 1995, p. 37.
22. *South China Morning Post International Weekly*, December 30, 1995, p. 6.
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"Coverage of Latest Mainland Exercise, Radio Reports Exercise," *Taipei China Broadcasting Corporation News*, November 25, 1995, in *FBIS-CHI-95-227*, November 27, 1995, p. 81.

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26. R. Jeffrey Smith, "China Plans Maneuvers Off Taiwan," *The Washington Post*, February 5, 1996, p. A1; Bill Gertz, "China's nuclear transfers raise new concerns in U.S.," *The Washington Times*, February 6, 1996, p. A4.

27. Smaller number from Liang Kuo-jen, "50,000 Troops Along Coast of Fujian Await Orders...," *Ming Pao*, February 7, 1996, in *FBIS-CHI-96-026*, February 7, 1996, p. 22; larger number reported by *Sing Tao Daily*, repeated by AFP in *Korea Times*, February 2, 1996, p. 1.

28. "PLA Said Planning Coordinated Exercises as 2 Fujian Sites," *South China Morning Post*, February 26, 1996, p. 13, in *FBIS-CHI-96-038*, February 26, 1996, p. 16.

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30. *KYODO*, February 17, 1996, in *FBIS-CHI-96-034*, February 20, 1996, p. 67.

31. *XINHUA*, March 5, 1996. The Keelung zone coordinates: 25 degrees 13 minutes north and 122 degrees 20 minutes east, 25 degrees 13 minutes north and 122 degrees and 40 minutes east, 24 degrees and 57 minutes north and 122 degrees 40 minutes east, and 24 degrees 57 minutes north and 122 degrees 20 minutes east; the Kaohsiung zone coordinates: 22 degrees and 38 minutes north and 119 degrees and 25 minutes east, 22 degrees and 38 minutes north and 119 degrees and 45 minutes east, 22 degrees and 22 minutes north and 119 degrees 45 minutes east, and 22 degrees 22 minutes north and 119 degrees and 25 minutes east.

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1996, p. 103.

33. "PRC's 4th Missile 'Did Not Affect Maritime Traffic,'" *CNA*, March 13, 1996, in *FBIS-CHI-96-050*, March 13, 1996, p. 104.

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36. *XINHUA*, 6:17 and 6:18pm, March 15, 1996, in *FBIS-CHI-96-052*, March 15, 1996, p. 42.

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39. Also noted in author's, "China's Missile Threat," *The Wall Street Journal*, December 20, 1996, p. A12.

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58. Naoaki Usui, "JDA Seeks Missile Defense Funds," *Defense News*, August 21-27, 1995, p. 8.
59. "Daily Cites 'Top Secret' TMD Accord With U.S.," *Ryukyu Shimpo*, March 10, 1996, p. 3, in *FBIS-EAS-96-048*, March 11, 1996, p. 3.
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62. Robert Karniol, "Australia, USA reinforce ties with joint exercises," *Jane's Defence Weekly*, August 14, 1996, p. 12.
63. Jay Bushinsky, "Canberra in Scud alert deal," *The Sunday Herald Sun* (Melbourne), July 14, 1996, p. 33.
64. Dimensions from Norris, et al, pp. 386 and 387 and *Jane's Strategic Weapon Systems*, Issue 15.

65. U.S. Defense Intelligence Agency (DIA), *A Guide To Foreign Tactical Nuclear Weapon Systems Under the Control of Ground Force Commanders*, DST-1040S-541-87 (partially declassified under FOIA), 4 September 1987, p. 79, in Norris, et al, pg. 386.
66. Stated by Hua Di of the Stanford Center for International Security and Arms Control in Michael A. Dornheim, "DF-15 Sophisticated, Hard To Intercept," *Aviation Week and Space Technology*, March 18, 1996, p. 23.
67. David A. Fulghum, "China Exploiting U.S. Patriot Secrets," *Aviation Week and Space Technology*, January 18, 1993, p. 20 and "Defense Dept. Confirms Patriot Technology Diverted," *Aviation Week and Space Technology*, February 1, 1993, p. 26.
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69. For reference to S-300 see "Defense Official Discusses South China Sea Exercise," *Lien -Ho Pao*, July 12, 1996, p. 4, in *FBIS-CHI-96-138*, July 17, 1996, p. 88.
70. Barbara Opall, "China Boosts Air Combat Capabilities," *Defense News*, September 2-8, 1996, p. 56.
71. ASA-10 'Grumble' (S-300 Buk/5V55/48N6)," *Jane's Strategic Weapon Systems*, Issue 20.
72. *Air Force Magazine*, March 1996, p. 79., and *Jane's Strategic Weapon Systems*, Issue 20. Target engagement speed is only one component of ABM capability; others include range of the intercepting missile and provision of long-range cueing information.
73. Litai Xue, p. 180; John Wilson Lewis and Hua Di, "China's Ballistic Missile Programs: Technologies, Strategies, Goals," *International Security*, Fall, 1992, p. 21.
74. "Development of Second Artillery Corps," *XINHUA*, July 7, 1996, in *FBIS-CHI-96-137*, July 16, 1996, p. 36.
75. An interesting description of this possible base, perhaps in the Tai-Hei mountain range, is contained in "China's Nuclear Arsenal" by Yang Zheng of the University of Singapore, and in an anonymous article that follows, web site: engp3845@leonis.nus.sg This analysis contends the base inside the mountain is large enough to facilitate vertical launching of DF-5 ICBMs after blowing a hole in the side of the mountain over the launch zone. U.S. and industry reactions to this possible base have ranged from

unlikely to plausible. Yang's article also contends, based on an alleged leaked internal PRC MoD document, that China has 2,350 nuclear weapons instead of the usually cited 300-to-450. The MoD document's origin in a Hong Kong report, however, casts suspicion on this interesting assertion. Yang also estimates that China has produced possibly as many as 120 to 150 DF-5 ICBMs—a number deemed probable by one U.S. source.

76. The author is indebted to Paul Godwin for this point.

77. See Alastair I. Johnston, "Chinese Nuclear Force Modernization: Implications For Arms Control," *Journal of Northeast Asian Studies*, June 1983, p. 20; Harlan W. Jencks, "PRC Nuclear And Space Programs," *SCPS Yearbook on PLA Affairs, 1987*, Sun Yat Sen Center for Policy Studies, 1988, p. 110; Paul Godwin, "Changing Concepts of Doctrine, Strategy and Operations in the Chinese People's Liberation Army, 1978-1987," *China Quarterly*, December, 1987, pp. 584-590; J. Mohan Malik, "Chinese Debate On Military Strategy: Trends and Portents," *Journal of Northeast Asian Studies*, Summer, 1990. p. 23-24.

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Acquire Night-Launch Skill," *Jiefangjun Bao*, August 16, 1995, in *FBIS-CHI-95-164*, August 24, 1995, p. 43.

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PLAAF Modernization: An Assessment

by Kenneth W. Allen

*Introduction*¹

"On April 7, 1996, the Liberation Army Daily called for an urgent upgrading of the country's Air Force to neutralize growing threats from regional neighbors and other countries. . . . Our country now faces a serious challenge. . . . China needs to develop airborne early warning systems and foster research in the development of high-tech electronic combat systems. . . . If threatened from the air, China must have the ability to carry its defense strike capability to targets outside its own airspace."²

"China's double-digit per annum growth is funding three major combat aircraft development programs at a time when the whole of Europe can barely afford two. What is more, the aircraft will have a qualitative edge hitherto lacking on the Chinese mainland. Spurred by the lessons of the Gulf conflict and the re-equipment plans of its neighbors, the People's Liberation Army Air Force is replacing a significant part of its old 4,000-odd ageing combat aircraft with fighters on a par with many Western types."³

"Chinese military newspapers and magazines present a body of evidence that the PLA has increased the number of joint and combined arms exercises since 1990. . . . Many of these reports are ambiguous and can be interpreted differently by different observers. To some, every report contains a threat. To others, a relatively weak military can be seen in the process of modernization."⁴

During the 1970s and 1980s, it was difficult finding an article that described the People's Liberation Army Air Force (PLAAF) as anything other than an "obsolescent giant." However, recent articles, such as "China's Purchase of Russian Fighters: A Challenge to the U.S.,"⁵ "Russia, Israel helping China build new fighter,"⁶ and the articles cited above, along with China's military exercises off Taiwan in early 1996, have spotlighted the PLAAF's capabilities and modernization efforts.

As a result of China's actions toward Taiwan and the access to foreign weapons systems, technicians, and technology, two opposing views have surfaced. On one side, there has been a focus on China's actual and desired acquisition of foreign weapons systems and technology and the potential threat these systems could pose. On the other side, there has been acknowledgment of these acquisitions and desired acquisitions, but there is a more pessimistic view of their actual use and the potential for China to produce these items themselves, based on China's past performance. In reality, the truth probably lies somewhere in between.

A discussion of the current limitations on the PLAAF may help us estimate where the PLAAF will be in 10-15 years. It is important to examine two interdependent pieces to this puzzle: the PLAAF and the Aviation Ministry.⁷ A short overview of the PLAAF's history, missions, and defense strategy will lead to a review of how the Air Force trains in order to implement this strategy. Finally, China's aircraft production capabilities and their effect on the PLAAF's modernization also requires consideration.

Brief PLAAF History⁸

Since its founding in 1949, the PLAAF—consisting of aviation, airborne, radar, communications, and air defense (surface-to-air missile [SAM] and anti-aircraft artillery [AAA]) units—has become the third largest Air Force in the world (after the United States and Russia), with over 4,500 combat aircraft in its inventory—about one-half of which are ageing F-6s. According to the PLAAF's official history, the Air Force has shot down 1,474 and damaged 2,344 aircraft of all types since 1949, including involvement in “liberating Tibet,” in the “War to Resist America and Aid Korea,” in numerous engagements with Nationalist and U.S. aircraft over the Taiwan Strait, in the “War to Aid Vietnam and Resist U.S. Aggression,” and in the 1979 “self-defensive counterattack” against Vietnam. These figures include air-to-air combat (less than 200 aircraft) and aircraft shot down by the PLAAF's AAA and SAMs (over 3,500 aircraft). As a result of these past accomplishments, the PLAAF has, in some respects, become a captive of its own propaganda when it comes to dealing with current and future combat challenges.

When the PLAAF was formally established in 1949, the main emphasis was on setting up an administrative structure and beginning to train personnel. There were still virtually no aircraft in the inventory, and the existing infrastructure was woefully inadequate to support a large force. However, the ensuing decade was one of major development. The onset of the Korean War and the provision of large-scale assistance from the Soviet Union enabled the PLAAF to organize, equip, and expand at an extremely rapid pace. But the Air Force's combat record during this period remained very mixed, underscoring the huge challenges faced in effectively protecting China's national-security interests.

During the 1960s, the PLAAF's evolution was dominated by the effects of the Sino-Soviet split, the Cultural Revolution, and, to a lesser degree, the Vietnam War. This period proved traumatic and highly disruptive. The Sino-Soviet split severely limited on the aviation ministry's ability to provide the Air Force with a large inventory of modern aircraft. The Cultural Revolution led to the politicization of the PLAAF leadership and a rapid decline in training and operational capabilities. In essence, the Cultural Revolution set the PLAAF's development back by several decades, and the Air Force is still struggling to recover from the damage inflicted on it during this period.

The 1970s and 1980s saw the PLAAF's attempts to rebuild following this long period of upheaval and decline. The three primary events affecting this situation were the end of the Cultural Revolution in 1976, Deng Xiaoping's ascendancy to top leadership at the Third Plenum of the 11th Party Congress in 1978, and the 1979 border conflict with Vietnam.

In 1978, Deng Xiaoping and other senior leaders began introducing reforms into the Chinese social, economic, and political system, including defense reform. The most widely cited doctrinal justifications for Chinese defense reform were the "three hua's": modernization (*xiandaihua*), revolutionization (*geminghua*), and regularization (*zhengguihua*). Nearly all substantive military reforms have been introduced under the rubric of regularization within the PLAAF, which involves people, resources, objectives, processes, and institutions. In short, these are factors over which the Air Force has some degree of control. But, modernization of the PLAAF fundamentally applies to equipment,

which involves external factors. Until access to Russian equipment was renewed in 1990, the PLAAF was dependent almost solely on what China's aviation industry (with or without foreign assistance and technology) designed, developed, researched, and produced.⁹

Overall, the PLAAF's activities in the 1980s fit within the broader context of China's opening to the West. During this period, the People's Liberation Army (PLA) formalized its relations with the U.S. military, using the concept of the "three pillars" as the basis for the relationship, although these ties were seriously disrupted following the Tiananmen incident.¹⁰ In 1985, China also revised its national military strategy, declaring that it was no longer necessary to prepare for a major (and possibly nuclear) war in the near term. The PLA instead sought to focus its primary attention on preparing for limited war and unanticipated military crises along China's periphery.

The PLAAF began the 1990s with a reevaluation of its force structure, a goal of establishing a rapid-reaction force, and three changes in commanders in five years.¹¹ The introduction of the F-8-2 and the Su-27 into the operational force in 1992, greater access to Russian and Israeli arms and technology, and the military exercises opposite Taiwan in 1995 and 1996 provided new challenges for the Air Force and raised the specter of an increased Chinese threat to new levels among China's neighbors.

PLA Doctrine and Strategy¹²

China's communist leaders, who have long seen themselves as encircled by real or potentially hostile forces that threaten the regime's security, have long sought to define a strategy to deal with this situation. China's overall strategy and doctrine are generally described under the rubric of "people's war," which Mao developed in a series of lectures between 1936 and 1938. These classic statements of military strategy (*Problems of Strategy in China's Revolutionary War*, *Problems of Strategy in Guerrilla War Against Japan*, *On Protracted War*, and *Problems of War and Strategy*) remain the basic reference points for most subsequent innovations in Chinese defense strategy. A somewhat indefinite concept, people's war retains a measure of influence in Chinese thinking, at least in broad conceptual terms. Its flexibility

encompasses a wide array of applications. Thus, people's war has evolved as a blend of defense and offense and has been modified to incorporate active defense, people's war under modern conditions, and the rapid-reaction strategy. Within this general structure, the Air Force is defining its own strategy and doctrine.

In its essence, people's war reflects a strategy of weakness. Since the PLA was founded in 1927, it has had to develop strategies for defeating adversaries that have superior weapons and equipment. That this dilemma should continue into the 1990s is no doubt frustrating to members of the current military hierarchy. In some ways, this predicament has become more difficult to resolve than in the army's revolutionary years. In the 1930s and 1940s, the communists could afford to surrender their base areas to maintain fluid battle fronts. Mao could accept the destruction of China's "pots and pans" to maintain the fluid fronts and mobility essential to his concept of strategic defense. With the establishment of a communist state, however, the upholding of China's sovereignty and the protection of its territorial borders became a vital security objective. Even more important, the defense of China's cities and vital industrial centers necessarily became an important component in Chinese defense planning. By the late 1970s, the defense of China's cities and industrial centers was officially enshrined as a goal of primary import to China's national security. With the accelerated development of the country's industrial infrastructure since the mid-1980s, China's major urban centers have become even more vital as the nation's focal points of industrial development. Not surprisingly, airpower is seen as a crucial component in guaranteeing the security of China's cities. But the priority of these changing defense goals had to confront the reality of China's military vulnerabilities.

While people's war places special emphasis on defensive strategy and on the factor of manpower over weapons, the PLA has never ignored the need for an offensive strategy. For example, the PLA's involvement in the Korean and Vietnam wars, plus its attacks against India in 1962 and Vietnam in 1979—all of which were followed by a quick unilateral withdrawal—were all described as "defensive" operations. At the same time, Mao long recognized the value of utilizing superior force to overwhelm China's adversaries.

Thus, Mao was not thinking primarily in terms of guerrilla warfare

when he delivered the lectures that were to become the essay "On Protracted War." In late 1938, he was arguing that militarily decisive actions would be taken by main force units and that guerrilla warfare would play a secondary, but important, role in support of the main forces. The basic military strategy Mao formulated, known as "active defense," was one of a protracted, defensive war.

The concept of active defense means taking tactically offensive action within a basically defensive strategy. The defending forces undertake offensive operations to wear down the adversary who is strategically on the offensive and attacking. It is the opposite of passive defense, which means the defending forces simply resist without attempting to weaken the adversary who is preparing to attack or is actually on the offensive.

The active defense strategy consists of three phases: strategic defense, strategic stalemate, and strategic counterattack. In strategic defense, it is important at the start of a conflict to smash the enemy's strategic attacks. The strategic stalemate phase is designed to stabilize the situation and begin changing from defensive to offensive operations. The strategic counterattack phase focuses on defeating the enemy. Chinese leaders consistently state that China's forces are weaker than its potential adversaries and will continue to be so even as the PLA makes efforts to develop and improve its weapons and equipment.

The PLAAF's Missions and Strategy

In the course of its long history, the Chinese Air Force has endeavored to undertake an exceptionally broad array of organizational missions. The first operational mission assigned to the PLAAF in 1949 was the air defense of Beijing and Shanghai against Nationalist air raids. This mission was expanded to include northeast China during the Korean War and to the southeast provinces during the 1958 Taiwan Strait Crisis. As an arm of the PLA, the Air Force has traditionally conducted its combat operations as a series of campaigns within the PLA's overall campaign. The Air Force describes a campaign as "using from one to many aviation, air defense, or airborne units to carry out a series of combined battles according to a general battle plan to achieve a specified strategic or campaign objective in a specified time."

Today, the PLAAF still describes its primary mission as the defense of China's air and land. However, this can best be described as defense of China's major cities and industrial areas, as evidenced by the location of the PLAAF's airfields, combat aircraft, SAMs, and AAA. Although the PLAAF states that its secondary mission is support to the ground forces, it has never successfully carried out direct support of ground troops and officially states that it can only support them indirectly in the future. Published PLAAF sources also refer to informal missions such as: assisting socialist construction, providing air services for disaster relief and air rescues, and artificial rainmaking support for farmers.¹³

The range of Air Force responsibilities can be deduced from the functions of its operational branches and where these forces are deployed. In the case of the PLAAF, the goal of air defense includes not only aerial combat but also responsibility for the ground-based air defense of China (i.e., SAMs and AAA). Many Western militaries regard airborne forces as being part of the ground forces with their air forces providing only transportation. This is not the case in the PLAAF, which also has the airborne forces missions.

The PLAAF is divided into five branches: aviation, AAA, SAMs, radar, and communications. The aviation branch, which includes fighters, ground attack aircraft, bombers, transports, and reconnaissance aircraft, is the Air Force's main arm. The PLA's airborne troops belong to the Air Force, but are not considered a branch. The PLAAF also has logistics units, research institutes, hospitals, and sanitariums as part of its organizational structure.¹⁴

An important strategic change for the PLAAF took place in the late 1980s when the PLA began forming a rapid-reaction force consisting of "fist" units. The rapid-reaction strategy is based on the premise that China will only be engaged in local wars for the foreseeable future, that the PLA must strike to end the war quickly and meet the political objectives, and that cost is a big factor as equipment becomes more expensive to use and replace. Such local wars would be conducted as part of its active defense strategy, which consists of three phases: strategic defense, strategic stalemate, and strategic counterattack. Some Air Force leaders firmly believe that their intelligence, mobility, and attack capabilities will be sufficient to allow them to react appropriately to any

situation, including gaining air superiority, supporting the ground forces, and conducting counterattacks against targets inside the enemy's borders.

While the PLAAF remains virtually silent about the different means of employing airpower within the framework of China's active defense strategy, the acquisition of Russian IL-76 transports assigned to support the airborne forces, the receipt of the first Russian Su-27s in 1992, as well as the decade-long testing of a B-6 tanker, and negotiations with Israel, Russia, and Britain to obtain an airborne early warning capability, has been a clear first step in implementing the rapid-reaction force strategy.

PLAAF Training Limitations

There is very little open source material of substance written inside China about the PLAAF. In addition, the Chinese books that have been published spend more time discussing what the PLAAF would like to be rather than describing what it really is. As a result, a casual observer could certainly get the wrong impression about the PLAAF's actual capabilities. As one foreign military officer noted in 1989, "the reason the Chinese are so secretive about their Air Force is that they are embarrassed about its inefficiency."

Since 1992, the PLAAF has received 50 of a reported contract for 72 Su-27s from Russia and will reportedly receive more Su-27s that will be co-assembled and co-produced in China over the next several years. However, the acquisition of these aircraft will not make an appreciable difference in the PLAAF's overall capabilities because of a lack of overall structural flexibility, maintenance, logistics, and leadership—all of which impact directly on the actual use of the Su-27s.

The old adage "You fight the way you train" has defined and will continue to define the PLAAF. Based on analysis of Chinese open source material and discussions with PLAAF officers, it is apparent that PLAAF pilots do not train extensively for combat and the maintenance system is lacking. For example, PLAAF fighter pilots only fly about 100 hours per year and B-6 bomber pilots only fly about 80 hours—with no simulator training. According to a U.S. Air Force F-15 pilot, this compares to 200-220 hours per year in the F-15, plus 36 simulator hours for new pilots and 18 for experienced pilots.

In addition, about 80-85 percent of the PLAAF's flight time consists of routine take off and landings and short navigation flights, leaving only about 15-20 percent for "combat training." However, these figures are hidden in reports like the following: "Class-A regiments, which symbolize the Air Force's growing combat effectiveness, now account for 95 percent of the total number of combat regiments, and 74 percent of pilots have now been trained to fly in all types of weather, an all-time high."¹⁵ According to PLAAF sources, there are several reasons for this type of misleading reporting, including fear of accidents, maintenance concerns, structural inhibitions, and funding limitations.

According to American and PLAAF sources, there is a fear among PLAAF officers of being demoted if there is an accident on their watch. Therefore, training is neither extensive nor rigorous, especially given the age of most aircraft in service. Two specific examples were given to emphasize this point. The most visible example was the short-lived command of General Cao Shuangming, who was appointed PLAAF Commander in November 1992 and was relieved of command in November 1994, as a direct result of numerous aircraft accidents. Cao was only the seventh commander since 1949, and only the second pilot to be commander. He was replaced by Lt. Gen. (now General) Yu Zhenwu, who served as the Director of Training at Headquarters Air Force (HqAF), as well as Deputy Commander and Commander of the Guangzhou Military Region Air Force, and Deputy Commander at HqAF with the training portfolio.

The second example given was the demotion of an unidentified commander who was the duty officer in the command post when seven-of-nine aircraft flying from Guangzhou to Chengdu in 1995 or 1996 crashed in bad weather. As a result of this incident, the control of all flights of nine or more aircraft, regardless of distance or destination, is now controlled directly out of the command post at HqAF.¹⁶

Secondly, poor maintenance has always been a concern to the PLAAF. Articles in the Liberation Army Daily often extol unidentified PLAAF units for 10-15 years of accident-free flying. According to PLAAF officers, these figures are very misleading, since they do not accurately reflect the actual low operational readiness rate of the unit's aircraft and the fact that the low accident rate is obtained by flying mostly easy navigation flights. For example, during the recent visit of

a U.S. military delegation to China, one of the participants observed the following situation at a PLAAF base: "The aircraft were in poor condition. The static display aircraft had numerous leaks, chafed wire bundles, and bald tires. The airfield condition was poor. FOD was evident on the main ramp and the ramp conditions near revetments was deteriorating."¹⁷ According to an internal PLAAF maintenance magazine published in 1988, hydraulic system contamination was a serious problem in the F-6 (produced in Shenyang) and the F-7 (produced in Chengdu), accounting for 25-50 percent of all fighter and ground attack aircraft malfunctions during the 1980s and 25-75 percent of all aircraft malfunctions.¹⁸ In addition, according to discussions with PLAAF maintenance officers, the Air Force spends 35 hours of maintenance for every one hour of flying time in the A-5, and one PLAAF officer stated that the F-8 was down over 50 percent of the time due to radar malfunctions.

Concern over engine usage and maintenance also inhibits extensive training. As a general rule, the PLAAF's fighter engines require a major overhaul after 300-350 hours, a second overhaul after an additional 200-250 hours, and a third after an additional 150 hours. After that, the engines are scrapped. This is why pilots are airborne within three minutes of starting their engines, shut them down before they reach the end of the runway, then coast to the taxi apron upon landing.¹⁹ Except for minor repairs, the PLAAF's F-6s, F-7s, B-6s, and A-5s are flown to one of the Air Force's 21 aircraft and engine repair facilities for overhaul. The F-8s are returned to the aircraft production factory at Shenyang for any major repairs and overhauling. A complete overhaul of these aircraft takes from 6-12 months, depending upon the type of aircraft. According to a 1988 article in the *Liberation Army Daily*, the PLAAF overhauled over 10,000 engines the previous year.

Maintenance is also hampered by the lack of standardized parts, a poor logistics structure, and poor engine technology. Virtually all the holes in China's aircraft structural components are hand drilled without use of a template, so that the pieces are not interchangeable with the same piece on another aircraft. For example, when a radio malfunctions, the aircraft does not fly again until that radio is repaired and replaced in that aircraft. In addition, there is no standardized parts

numbering or parts list for China's aircraft, which makes it very difficult to order spare parts. Furthermore, the F-6 and early versions of the F-7 are no longer in production, so the PLAAF must produce all of its own spare parts for these aircraft.

In addition, many of the aircraft factory's subcontractors have channeled their scarce resources into more lucrative civilian products with a quicker return on their investment. For example, in 1989, a senior representative of the China Aero-Technology Import and Export Corporation (CATIC) told the author that it took direct intervention from the Minister of Aviation to get some subcontractor factories to produce some small spare parts for the F-7-2.

As a result of these logistics problems, the Air Force keeps a full year's worth of supplies of most spare parts for every combat aircraft at the operational base. Other spare parts, such as tires, are kept at regional supply depots. Virtually all spare parts are moved by rail and takes months of preplanning. This system also hampers the effective deployment of aircraft to auxiliary or alternate airfields.

Equally important to limitations imposed by maintenance and logistics are budgeting limitations. According to Chinese sources, the HqAF Training Department meets once a year with all subordinate commands to allocate training requirements. In terms of flying requirements, HqAF provides general guidelines, such as the percent of flying time required in each of the four weather conditions.²⁰ It is then up to the Military Region Air Force Training Departments to determine the actual number of flying hours for its subordinate units, which can be different for each military region.

According to these sources, the unit commanders are allocated a certain amount of money annually to pay for this flight training. However, many commanders divert part of the money to pay for non-flying items such as officer housing, in order to keep morale high. In addition, some commanders use the money to trade for goods from other units for the same reasons. As a result, the money is often not available for the flight training, so the number of actual flight hours are reduced, but the percentages required by HqAF are met.

PLAAF Combat Capabilities

Having discussed these limitations, the basic question remains

whether or not the PLAAF can engage in meaningful, sustained air combat. One of the keys to sustained air combat is sortie generation and quick turnaround times. According to an analysis of PLAAF sortie generation during previous engagements, including the 1979 Sino-Vietnamese Border Conflict and the 1981 Large Scale North China Exercise near Beijing, the PLAAF does not train for quick turnaround or repeated sortie generations. For example, the PLAAF deployed about 700 aircraft near the Vietnamese border in 1979 and flew an average of one sortie every five days.²¹

The most recent example of the PLAAF's operational readiness was the PLA exercises opposite Taiwan during March 1996. According to available open source material, "there were 12,000 Air Force and 3,000 Naval Aviation servicemen involved. More than 280 aircraft were deployed, making 680 sorties, including 82 sorties by transports. Over 800 combat aircraft were in combat readiness or on the alert."²² According to another report, there were fewer than 100 additional aircraft deployed to the 11 Fujian airfields from other bases, raising the total to only 226 aircraft.²³

During March 1996, Chinese television showed several news clips of the Army, Air Force, Navy, and Second Artillery performing live-fire exercise activity, with the implication that the tapes were taken during the March exercises off Taiwan. A review of the tapes showed that some of the material was file footage from previous exercises and routine activity, but they did reveal some valuable glimpses of the PLA. In the following paragraphs, a USAF officer familiar with tactical air operations provides a description of activity by PLAAF and Naval Aviation aircraft shown in the videos.

"Despite the dubious nature, and choppy quality, of the footage included in the video, a number of tactically significant observations can be made. In addition, the absence of certain tactical events provides some potentially valuable information concerning the level of sophistication of PLAAF and Naval Aviation combat air operations and capabilities. Of course, these observations can only be termed as superficial without the use of other sources of information to flesh them out.

"Possibly the most notable aspect of the video was the lack of any coordinated air activity or dissimilar air combat training. The footage only shows single type aircraft packages in flight (and relatively small packages of 1-ship to 4-ship formations with a few shots of a 5-ship formation of unarmed Su-27s).²⁴ While such activity may have occurred, it would seem likely that

the Chinese would have publicized advanced activity such as this. In comparison, Western air forces take advantage of exercises by having their various fighter assets fly against each other (and in much bigger packages—sometimes up to 20-ships—which is critical training from a communications, tactics, and basic flight coordination standpoint) as often as possible to increase the level of realism. The Red Flag exercises at Nellis AFB, Tactical Leadership Programme Flying Courses at Florennes, Belgium and the numerous exercises flown throughout the Pacific region are perfect examples of this. Without this type of training and without the cross-flow of tactical ideas from other air forces, Chinese tactics will not progress beyond visual range and the all-aspect missile defense realm.

“The Su-27s were prominently featured in the video. However, it was surprising that none of them were filmed in flight carrying air-to-air missiles. There was one shot of a Su-27 on the flightline loaded with AA-10/ALAMOs and AA-11/ARCHERS, yet these missiles did not appear to be used, at least for the flights caught on video. FBIS reporting indicates that the Su-27 and other fighters did carry out live-missile firings (LMF) during the exercise with infrared (IR) missiles (most likely PL-2/5s and AA-11s) fired against parachute-retarded flares. LMFs are not tactically significant or difficult events, rather, they provide fighter pilots with the experience and feel of firing a missile. The Su-27 pilots would have received much more tactical benefit if all of their sorties were flown with both AA-10s and AA-11s, allowing them to practice simulated beyond visual range semi-active AA-10 engagements, as well as within visual range (WVR) IR AA-11 engagements. Such training would only be viable, however, if opposing forces were present to act as targets, another seemingly missing element from the exercise play.

“The F-7 LMFs in the video were also revealing. It appeared that as soon as the missile left the rail the pilot would immediately break left, leaving the fight. While this maneuver can be wise from a defensive standpoint depending upon the scenario, it is a poor way to train for the employment of IR missiles. Western pilots are taught to “track-shoot-track.” In other words, to initially acquire the target and lock-on to it with the IR missile’s seeker, then track the target until the highest probability of kill shot can be taken, then shoot the missile and continue to track the target to ensure the kill. Of course, defensive maneuvering may be required. However, during an exercise or LMF proper missile employment techniques should be practiced.

“This also raises questions concerning Chinese tactics with their semi-active AA-10As. Due to the semi-active radar guidance of the missile it is necessary to track the target with the air intercept radar to provide guidance for the full flight of the missile. If the fighter breaks away from the target beyond the gimbal limits of the radar, the target will be lost. While it is not clear that Chinese pilots operate in that manner, the video definitely raises the flag.

“The ground attack activity in the video stands out due to the apparent lack of defensive maneuvering in the target area. A-5s and Su-27s were shown conducting low-level rocket and bomb attacks against simulated

ground targets. However, no jinking, hard maneuvering, or chaff/flare countermeasures were employed. In a realistic scenario, simulated ground threats (SAMs and AAA) would have been used, necessitating defensive tactics on the part of the aircraft. Such a scenario should also include a heavy electronic combat environment and appropriate countermeasures. B-6D bombers were also filmed conducting live bombing with dumb bombs (of course, there are no true precision guided munitions/PGMs in the Chinese inventory, with the exception of the anti-shipping C-601/801s). Of note here was the higher altitude flown by the B-6s as compared to the fighters. While providing a greater flight safety margin, bombing from these altitudes will make the B-6s prime targets for any SAM/AAA sites within close proximity to the target.

"In general, the video illustrates that the Chinese are able to employ the basic capabilities of their aircraft. However, advanced tactical capabilities still appear to be beyond the reach of the PLAAF and Naval Aviation. While advanced tactics were not demonstrated on the video, which is possibly just the nature of the footage, other open-source reporting tends to reflect this situation as well."

In order to generate an offensive strike, the PLAAF would have to deploy several hundred aircraft to the area, have them operationally ready, have them take off, rendezvous, and fly together in a coordinated strike package. There is little doubt that the PLAAF can deploy several hundred aircraft to the area in a short period of time—they deployed 700 aircraft opposite Vietnam in less than 45 days in 1979. However, there is considerable doubt that they can coordinate a sufficient strike package without months of intensive training. For example, in the early-1980s, U.S. Pacific Air Forces initiated a series of large-force exercises to penetrate heavily defended integrated air defense systems. The initial series started with multi-squadron attacks in the Philippines during Exercise Cope Thunder in which two F-15 squadrons from Kadena Air Base in Okinawa and two F-4E/G squadrons (one attack and one wild weasel) would simultaneously launch and attack the Cope Thunder Complex. The follow-on training in Korea and Okinawa required multi-wing, multi-base launches flying non-stop with airborne tanker support from the Philippines, Okinawa and Korea. On one occasion, over 420 aircraft, including B-52 bombers and South Korean Air Force fighters, attacked Osan Air Base in Korea."²⁵

To put this in perspective, a USAF pilot who visited China in early 1996 made the following observations about the PLAAF's "August 1st" F-7 flight demonstration team and general flight operations. "In gener-

al, the F-7 demonstration squadron was unimpressive. The demo began with a single aircraft takeoff. This aircraft did several passes over the field at approximately 1,000 feet above ground level (AGL) and then accomplished two loops which bottomed out at approximately 2,000-5,000 feet with a low airspeed requiring an extended time for acceleration prior to the next maneuver. The pilot then executed an immelman and remained at approximately 15,000 feet in an orbit. Then two other aircraft did a formation takeoff and circled 3-5 miles east of the field. After five minutes, the observers were told the team was on a training mission and the demonstration was over. The observers suspected that the team could not join up or an aircraft had a malfunction." Based on briefings and observations at other PLAAF bases, the pilot stated "my overall view is that the PLAAF is in sad shape. Training is limited and proficiency is poor. General mission capable rate is probably less than 40 percent given the aircraft and airfield conditions. I suspect missions are mostly single ship air defense combat air patrol."²⁶

This does not mean that the PLAAF has not tried to address its shortcomings. There have been numerous articles out of China and Hong Kong that have noted the increase in "combined arms" and "joint service" training that has taken place since 1990. However, by all accounts, this is still very rudimentary, scripted training. According to an October 1995 study, "the PLAAF was involved in an average of one 'joint service' exercise per year from 1990-1995. The study concluded that based on the information at hand, no firm conclusions can be made as to how far the PLA has progressed in conducting joint and combined arms operations. It is obvious that they are working toward a greater joint capability, but how much improvement has been made in actual command and control and interoperability is left to question. In some cases, it still appears that the PLA considers an exercise to be joint when forces from different services merely arrive in the same area at the same time and then conduct exercise scenarios separate from each other."²⁷

Discussions with PLA sources indicate that the above conclusions are correct. According to them, the PLAAF sometimes conducts what it calls "combined arms" exercises, involving its aircraft and AAA units. However, the aircraft fly in one area while the AAA shoots at tow

targets in another area. As for joint training, the sources stated that there are not direct communication links between the air and ground force divisions or group armies due to incompatible communications equipment. Therefore, the only way for them to communicate is for the air division to pass a message to the air force regional command post, who relays it to the regional command post, who in turn relays it to the ground force division or group army. Of note is that the military region air force headquarters are not co-located with the military region headquarters.

As a result of these communications limitations, the PLAAF and Army have agreed that no AAA or SAMs will be allowed to fire while PLAAF combat aircraft are in the area—either en route to/from the area or engaged in actual aerial combat. Furthermore, the PLAAF will not be able to provide “direct support” to the ground forces, but will only be able to provide “indirect support.”

Implications for the SU-27

What does all of this mean for the PLAAF's Su-27s? Although the Su-27 is a very capable aircraft, there are reports that the PLAAF is not utilizing, and will not utilize, the aircraft to its full potential. A USAF F-15 pilot who is very familiar with the PLAAF stated “the Su-27, like the F-15, is a very easy aircraft to fly, but both aircraft are very complicated to employ in combat. This is why the Su-27 pilots will continue to fly lots of navigation flights, but will continue to use very simple, strictly controlled tactics close to base.” In addition, according to Chinese sources, “the pilots at Wuhu are all former F-8 pilots and are the highest paid pilots in the Air Force—partly to keep them from defecting. However, the pilots do not trust the Su-27 radar because they never trusted their own F-8 radars. Therefore, they rely only on visual detection of their targets. The source also stated that the radar in the PLAAF's Su-27s, which has a detection range of 60 km, is not the same radar that is in the Russian Air Force's Su-27s.”

According to various sources, the Su-27 pilots have yet to master the aircraft after five years, because of the overemphasis on safety and the lack of advanced flight concepts. As a result, the pilots have only flown simple tactics under heavy ground control intercept (GCI)

control. While the Su-27s have fired their IR missiles against parachute-retarded flares, they have not reportedly fired any AA-10 semi-active radar guided missiles. According to one Chinese source, China will begin co-producing the AA-10, but Su-27 pilots will not have much chance to fire them at a cost of 100,000 Renminbi (US\$12,000) each.

According to Taiwan sources, the Su-27s have "a very low operational readiness capability due to poor logistics and maintenance. The number of takeoffs and flights is not frequent."²⁸ Since China does not yet have the capability to repair the Su-27, any major repairs or overhaul of the Su-27s will have to be made in Russia. As a result, the number of flying hours will most likely be kept at a minimum in order to prolong this process and the service life of the aircraft. In addition, according to a New York Times article, "even after lengthy training in Russia, the Chinese pilots designated to take over the Su-27s were so unskilled that Russian pilots had to deliver the planes to the Chinese base."²⁹

While the Su-27s have been at Wuhu since June 1992 as the centerpiece of the PLAAF's rapid-reaction force, they have apparently not deployed to any other bases. According to Chinese sources, the pilots are flying only 60-100 hours per year. In addition, when the pilots sit operational alert, they are controlled directly by the HqAF Command Post, which always has the PLAAF Commander or a Deputy Commander as the senior duty officer. This procedure can only delay the reaction time. One also has to ask what the procedures will be as more Su-27 units come on line.

Chinese Aircraft Production

There have been frequent reports that China will produce four new aircraft for the PLAAF. For example, Jane's Defence Weekly reported in its 31 January 1996 issue that "China's double-digit per annum growth is funding three major combat aircraft programs (Su-27, FC-1, and F-10) at a time when the whole of Europe can barely afford two. What is more, the aircraft will have a qualitative edge hitherto lacking on the Chinese mainland. Spurred by the lessons of the Gulf conflict and the re-equipment plans of its neighbors, the People's Liberation Army Air Force is replacing a significant part of its 4,000-odd ageing

combat aircraft with fighters on a par with many Western types. In addition, the F-8-2 will be upgraded with Russian fire control radars under the F-8-2M program.”³⁰

There is little doubt that:

- 1) China has concluded or is close to concluding a major co-assembly/co-production contract with Russia for the Su-27,
- 2) the FC-1 is under development at Chengdu,
- 3) the J-10 is under development at Chengdu, and
- 4) there are discussions with the Russians about upgrading the F-8-2 with Russian equipment.

However, it is unlikely that China's aviation ministry and the PLAAF can afford four major programs, plus the F-7 program at Chengdu. Neither does the aviation ministry have the capability to produce aircraft on a timely basis. This conclusion is based on lengthy discussions with U.S. aviation industry representatives who have had extensive dealings with the ministry of aviation and its aircraft production factories for 10-20 years each.

Based on interviews with these U.S. aviation representatives, they summed up their views on China's aircraft production goals and capabilities as follows: "Having lost their appreciation of Russian technology in the late 1960s, China's aviation ministry began focusing on foreign joint ventures where technology transfer was a cornerstone of the program. However, the representatives believe that the tech transfer aspects are less pronounced today.

"The first major program with the United States was the McDonnell Douglas commercial airline program at Shanghai, which included very little actual technology transfer. The contract took 10 years (1975-1985) to negotiate and almost all of the aircraft are co-assembled in Shanghai using American components. Less than 25 percent of the aircraft are composed of non-U.S. parts, and only a small percentage of this 25 percent are Chinese-made parts.

"The second major program, known as 'Peace Pearl,' was the US\$502 million Sino-U.S. Foreign Military Sales (FMS) program to upgrade 50 Chinese-made F-8-2 aircraft. Contrary to certain reporting, Peace Pearl was not a tech transfer program. All of the fire control systems were in kit form, such that if something went wrong, the bad

modules were to be removed and shipped back to the U.S. contractor for repair. The Chinese wanted, but were never authorized, access to the program's software codes."

In response to reports that China's combat aircraft programs benefited from its joint venture commercial aircraft programs, most U.S. aviation representatives said there was only 'a little' benefit that could be gained, but not much. One representative stated that "the only real benefit they got was some computer modeling for structural design and wind tunnel modeling."

Another representative discussed China's access to U.S. manufacturing machinery. In his view, "The manufacture of modern military aircraft in China has not taken a great leap forward even with all the outside help it has received. There has been a major worldwide buying spree by China for numerically controlled machines of all sizes and types, new and used. But only if the manufacturer of these machines is contracted to install, train and maintain this equipment will it ever be used. There are large numbers of five axis, multi-head, gantry milling machines that are installed in Chinese factories, but without work or the necessary skilled operators. This equipment could be used to manufacture close tolerance tools for the new commercial aircraft assembly in China. Again, Western assistance is necessary, especially for the level of tolerances required to meet international standards. For example, on the F-8-2 aircraft, the average tolerance was found to be four-tenths of an inch and in other than primary bulkheads, the tolerances were even greater. In order to manufacture complex structures at a repetitive rate, very close tolerances are required and Chinese tool makers and designers have to develop the necessary appreciation for these critical elements of manufacturing."

In terms of long-term goals and strategy, one representative described two trends—equipment and leadership. He said that "the most important focus in the 1970s was on acquiring engine technology. As a result, they acquired the 50 Spey engines that eventually became the power plant for the FB-7 under development at Xian Yanliang for the past 20 years. As a result of this program, the Chinese found out that manufacturing engines was not as easy as they anticipated.

"The focus of the 1980s was avionics, as was emphasized in the Peace Pearl program. But this also eluded them, since no tech transfer

was involved. Overlaid on these two components was the glaring lack of systems integration capabilities.” According to the representatives interviewed, as well as Chinese engineers, the Chinese do not have a master plan that builds their aircraft from the bottom up. Instead, they try to take parts off-the-shelf that were never designed to be part of any particular end product and try to make them fit.

According to one representative, “as a result of their failures with the engines and avionics forays, which they also blame on the uncertain political relations with the U.S., they turned back to Russia in the 1990s for help.”

The second component of this is leadership. Another representative with over 20 years of experience in China said there have been three generations of aviation leadership. “Virtually all of the key people in the aviation ministry and aircraft factories are graduates of one of three major aero-engineering academies—the Beijing Institute of Aeronautics and Astronautics, Northwest Polytech in Xian, and the Nanjing Institute of Aeronautics and Astronautics—all of which belong to the aviation ministry. Unlike the U.S. aerospace industry, there are very few retired PLAAF officers who work within the ministry or factories. In fact, one U.S. representative criticized the factories for the virtual lack of engineering feedback from the end users.

“Within these leaders, including those at the Commission for Science, Technology, Industry, and National Defense (COSTIND), there are certain factions that have promoted various projects. For example, Vice Minister He Wenzhi was the champion of the Su-27 program, but he recently passed away and it is uncertain who the new champion will be. The first two generations of leaders have all but disappeared and the current generation is not as focused for several reasons. One is the lack of a defined threat, but more important is the focus on making money, especially from civilian products with a quick return on their investment. In addition, there is tremendous amounts of money going into China’s space program.”

The representatives all agreed that there was a lack of risk-taking from top to bottom, and that one person could hold up an entire program at almost any level. For example, one representative stated that “there are Japanese, British, Israeli and Italian companies attempting to manufacture their air defense radar products in various Chinese

provinces. Based on conversations with representatives from companies that are familiar with those operations, most have not achieved their initial objectives. The Chinese engineers require much supervision and intense training, technical transfer is very limited and production rates are not achieved for a variety of reasons. One of the primary reasons seems to be a lack of initiative, hesitancy to take any risk and extreme insecurity regarding individual responsibility for the processes themselves. This very likely results from their socialistic/communitistic background and the consensus nature of their society."

Yet another representative described operations at one major aircraft production facility as "the plant manager was well-trained and knowledgeable on efficient, sound plant management procedures and aircraft production. However, he could not control the workforce. The workers made many of the key decisions in routine plant operations and aircraft production. He had one elderly machinist who consistently ruined expensive, imported aluminum stock. Yet, the manager was not permitted to replace the poor performer. Short working hours, grossly inefficient organization, and poor motivation and training of the workers were chronic problems which directly and adversely affected efficient output and quality control. Working spaces and equipment were not clean, but no one saw this as a problem."

The general consensus of the U.S. representatives and Chinese officials is that the ministry of aviation, and hence the PLAAF, will only be able to succeed on one of the three major projects at a time—the Su-27, F-10, and FC-1. They all agreed that the Su-27 is the most likely to succeed in the short term, some calling it a "show piece." Their estimates ranged from 50-200 aircraft actually co-assembled/co-produced in China through the year 2005. This equates to a total of 4-8 regiments split between the PLAAF and Naval Aviation, including the first two regiments already at Wuhu and Suixi.

They believe the next focus will be the F-10, which will not be a viable program until at least 2010, if then. As for the FC-1, they do not see this as a domestic program for the PLAAF. In fact, it may not succeed at all. This leaves a fourth program—the upgrade of the F-8-2 to an F-8-2M with Russian equipment. Again, the U.S. representatives describe this as an attempt to export the F-8-2 and not as a program for the PLAAF.

Production Cost and Time Factors

Cost and production capability are the primary issues behind these general factors. According to the IDDS Almanac 1996: World Combat Aircraft Holdings, Production, and Trade, China has produced an average of 24 F-7-3s and 12 F-8-2s for each year from 1991-1996 for domestic use.³¹ These are the only combat aircraft produced during these years.³² The exact cost of these aircraft is not known, but the approximate cost of the F-7-3 is under US\$10 million and the cost of the F-8-2 is probably about US\$15 million. According to PLAAF sources, the PLAAF has only purchased one regiment (24 aircraft) of F-7Ms, because they were too expensive. The reason for this is that the Ministry of Aviation demanded hard currency for each of the foreign components in the F-7M, while the PLAAF insisted on paying Renminbi for the entire aircraft.

Various reports have stated that China purchased the first batch of 26 Su-27s for US\$1 billion (US\$35 million each), and that China paid about 35 percent in hard currency and the rest in barter.³³ However, some sources have indicated that this \$1 billion figure included other items as well, thus reducing the unit cost. The original contract was apparently for 72 Su-27s, but negotiations were stalled until early 1996 on the second and third deliveries. According to numerous reports in early 1996, Russia and China secretly concluded a broad agreement to complete the long-stalled agreement for the 72 aircraft as a prelude to licensed production of the Su-27 in China. The production deal is reportedly worth more than US\$2 billion.³⁴ Reporting is sketchy about the total number of aircraft to be produced. According to Chinese sources, about 10-12 aircraft from the second batch were delivered to Suixi airfield in Southern China in April 1996, and the rest were delivered by September, for a total of 22 aircraft. There have not been any reports about deliveries of the third batch or whether this batch will be included in the production agreement.

Although it is difficult gauging China's actual cost for the Su-27s, a report by the Teal Group indicates a cost of about US\$45 million per Su-27.³⁵ However, discussions with the author of the report, Richard Aboulafia, indicate that the Russians really don't know how much their aircraft cost and are currently willing to sell them at "a reasonable

price.” Yet another U.S. aviation representative stated that very little money might actually exchange hands, and that almost all of the co-assembly/co-production contract may be done on a barter basis.

There has been frequent reference to the fact that China will be able to save money by producing the Su-27 in China. Discussions with U.S. aviation representatives indicate that this assumption is erroneous. In fact, these representatives agree that the actual cost of producing the Su-27 in China could easily cost 1 1/3 to 1 1/2 times as much as a direct purchase from Russia. Furthermore, they agree that China will most likely not ever be able to produce the Su-27 in China with 100 percent domestic content. They will always be tied to Russia for certain parts, unless they want to replace them with inferior Chinese components.

According to these representatives, the most likely schedule will begin with the first 30-40 aircraft being produced in Russia and then being co-assembled in Shenyang over a 2-3 year period. Some of the required manufacturing machinery is reportedly already being moved to Shenyang. China will then begin producing about 10-15 percent of the aircraft components in China each year over the next decade, but will not be able to completely produce the aircraft in China. To quote one representative with 15 years’ experience in China, “System design, test, and integration is another area which needs a great deal of attention and experience. Buying the best equipment is only one part of the electronic effectiveness pie. Testing and integration are equally, if not more, important. China has not had any experience in integrating sophisticated systems in aircraft without outside help. Israel and Russia are and have been providing this type of assistance on such programs as the F-10 and FC-1. The reality of these new aircraft is not possible without Western or Russian assistance. Now that there is this technical assistance, the question is how long will it take before the Chinese can stand alone. The speculation by ‘Old China Hands’ who are current with China and the technology believe it will take at least 20 years. . . if there is a substantial focus to provide the academically proficient and skilled individuals to receive not only practical training but actual experience on their own without help or reprisal.”

A U.S. representative with over 20 years’ of experience in China believes, “the Su-27 program is for show and China will most likely not ‘produce’ more than 50 aircraft. There is a lack of leadership within the

aviation ministry and most factories are more interested in commercial products where they can make quick money.”

Most U.S. industry representatives, and some Chinese sources, think that China might be able to produce a couple of F-10 prototypes, but they unanimously agree that the program, if it does get off the ground, will not come to fruition for at least 15 years. Unlike the Su-27, which is produced in Russia and will be co-assembled in China, the F-10 is a purely Chinese aircraft, albeit with some Israeli technical assistance. The closest aircraft program under development in China today that can be compared to the F-10 is the FB-7 at Xian Yanliang.

The FB-7 program began in the early 1970s when China acquired 50 Spey engines from Rolls Royce. The test program on the first prototype began as early as 1988 and only a couple of prototypes have been produced. The program has been plagued with problems since the beginning, including an underpowered engine, technical difficulties, and competition for funding. There is still no end in sight for the operational deployment of this aircraft.³⁶ Even a program like the F-8-2, which was an extensive reconfiguration of the 20-year old F-8-1, took 12 years from concept to actual deployment in 1992.

The F-10 program actually began in the late 1960s as the F-9 program. After numerous technical difficulties, the Israelis were asked to assist them with a new design in the early 1980s, and full scale cooperation was underway officially by 1984. The F-10 project was launched on a full scale in 1987. According to some reports deployment might occur in 1998.³⁷

Although it is difficult to assign a cost to the F-10 research and development program, cost for the USAF's F-22 is US\$18 billion. In addition, unit costs for some new Western aircraft include US\$30 million for the Swedish-British joint venture JAS-39, US\$50-60 million per copy for the French Rafale, US\$56-100 million per copy for the Japanese FSX (F-2) aircraft, and about US\$50 million per copy for Taiwan's Indigenous Defense Fighter.³⁸

Based on experience with the joint Sino-U.S. F-8-2 Peace Pearl upgrade program in the 1980s, development of this aircraft will also be delayed each time China changes its design or gets another country or company involved. For example, *Jane's Defence Weekly* reported in November 1995 that the J-10 will include a Russian radar system and

engines designed for the Su-27.³⁹ The program might work if they purchase all of the radars directly from Russia, but China will probably have difficulty if they try to co-produce the radars. According to a U.S. aviation representative, "U.S. companies that have performed many factory evaluations for proposed cooperative manufacturing ventures with China have generally found those facilities to be less than optimum for the task. The Chinese engineers and technicians are normally grounded in the basic discipline, however practical applications, manufacturing technologies and overall experience are in short supply. They are especially deficient in systems integration, logistics support and maintainability of existing systems. This becomes more pronounced as the level of technology inherent to a given product becomes more sophisticated. Most knowledgeable observers agree that it takes a massive infusion of technical and manufacturing assistance, as well as time, to bring the targeted facility up to western standards. For any cooperative radar project, the process moves from kit assembly to locally produced parts. The speed of an operation, from start to finish, is directly proportional to the technical sophistication of the radar and the amount of foreign engineering time applied to the project."

This is also true for the FC-1 program under development at Chengdu. The FC-1 program actually began in the early 1980s as a joint Pakistan-U.S.-China program known as Sabre-II, then changed to the Super-7 program. Now, it is known as the Sino-Pakistan-Russian FC-1 program designed to be a high-performance, low-cost, low-grade fighter to replace the 120 F-7MP fighters currently in service with the Pakistani Air Force. Meanwhile, some reports have stated that the PLAAF will also purchase the FC-1. By November 1995, the FC-1 development program had a total investment in excess of US\$500 million, with the initial test flight due in 1997 and delivery to Pakistan in 1999. However, reports indicate that inclusion of Russia's Mikoyan Aero-Science Production Group into the planning process has changed the situation. The Russians want to use the FC-1 as a technical continuation of the MIG-33 program they developed 10 years ago, which uses the Zhuk pulse Doppler radar and RD93 turbofans.⁴⁰ In fact, reporting from Pakistan in December 1995 indicated that "there are sufficient indications to suggest that the project may be delayed for an indefinite period, if not totally scrapped."⁴¹

Finally, there is reporting that Russia is helping China upgrade its F-8-2 with the Zhuk radar system,⁴² which had its maiden flight in Shenyang in April 1996.⁴³ This upgraded aircraft is known as the F-8-2M. According to a U.S. aviation representative, "the Chinese are building the F-8-2M primarily for export customers. Russia is assisting in the integration and development of this aircraft because most of the electronics and propulsion systems are Russian designed. This is another example of the lack of actual experience that China has in handling modern technology because of their hesitance to gain experience. The education and desire exist, but there is a great propensity on projects that attract high visibility for hands-on experience. . . . is a hesitancy of making a mistake and failing at the expense of the government or the company."

This paper has only discussed China's combat fighter programs. The PLAAF is hurting drastically in other programs also—air refueling, airborne early warning, reconnaissance, and air-to-air and air-to-ground munitions—all of which are very expensive, time consuming programs. For example, the August 5-11 issue of *Defense News* reported that "after more than 10 years of experimentation and indecision, China is moving ahead with plans to provide airborne early warning capabilities for its Air Force and Navy."⁴⁴ There are also reports that China will soon begin serial producing an airborne refueling aircraft.

Conclusions

What does all of this mean for the future modernization of the PLAAF, whose force is already shrinking rapidly as the bulk of its F-6s are retired? It means that the Air Force is caught between a rock and a hard spot. It will apparently have a rapid-reaction force of 4-8 regiments or 1-3 divisions of Su-27s by the year 2005, depending upon how they are allocated to the Air Force and Naval Aviation. Of these, the first regiment at Wuhu will already be 13 years old and the aircraft at Suixi will be 10-12 years old. Meanwhile, the F-7-3s and heavy, underpowered F-8-2s will become the bulk of the fighter force with no true ground attack aircraft to replace the A-5. This, of course, does not cover actual integration of the aircraft into the PLAAF in terms of new strategy, doctrine, tactics, and improved maintenance, logistics, and

leadership, along with the possibility of adding an AEW, aerial refueling, and reconnaissance capability as well.

Based on a compilation of material from multiple sources, Table 1 shows the date development began, the first flight, and the first delivery of China's primary combat aircraft currently in the inventory and under development. As can be seen, virtually every aircraft is based on a foreign aircraft design or has major foreign components (i.e. the FB-7's engine). In addition, the time it takes from development to operational delivery for modifications to an existing aircraft, such as the F-7-3 or F-8-2, is about 10 years. This time is even longer for aircraft, such as the FB-7 and F-10, that are "designed" in China. Other programs like the Sabre-II/Super-7/FC-1, A-5M, F-8-2M, and F-7M, are either funded by foreign countries, have foreign components, and/or are designed specifically for export.

Table 2 projects the PLAAF's new aircraft acquisitions through the year 2010. Although actual cost per aircraft is difficult to pin down, conservative figures as representative are estimated: US\$5 million for an F-7-3; US\$15 million for an F-8-2; US\$30 million for a Su-27; and US\$30 million for an F-10. These figures do not cover the added costs for spare parts and training, etc., once the Air Force acquires the

Table 1
Chinese Aircraft Development and Production

Aircraft	Development Began	First Flight	First Delivery	Remarks
A-5	1958	1965	1969	
A-5-1	1976	1980	1984	
F-7-1	1963	1966	1967	
F-7-2	1975	1978	1980	F-7 Program almost terminated in 1979 Export w/some in PLAAF; Design approved in 1993
FT-7	1979	1985	?	
F-8	1961	1969	1980	2 Prototypes produced; Operational Test Aircraft
F-8-2	1980	1984	1992	5 Prototypes produced; Design approved 1988
L-8/K-8	1984	1990	1993	Export. None in PLAAF
B-6	1961	1968	1969	
B-6D	1965	1981	?	
FB-7	1970s	1989		Not operational yet
F-10	1960s			Begin as F-9; Israeli help since 1984

aircraft. It should be kept in mind that there will also be attrition due to accidents, poor maintenance, and age. In addition, some of these aircraft might actually go to Naval Aviation rather than to the PLAAF. Therefore, the total of 930 PLAAF aircraft is probably on the high side.

Finally, these numbers equate to about 7 divisions (27 regiments) of F-7-3s, 3 divisions (9 regiments) of F-8-2s, 2 1/3 divisions (7 regiments) of Su-27s, and one regiment of F-10s. The PLAAF will have to decide whether to split each type of aircraft up into different divisions or to keep them together. While keeping them together helps with logistics and maintenance on a routine basis, it limits deployment options. On the other hand, splitting them up compounds routine training, logistics, and maintenance problems.

Table 2
Chinese Aircraft Development and Production

	F-7-3	F-8-2	Su-27	F-10	Total
1991	24	12	--	--	36
1992	24	12	26	--	62
1993	24	12	0	--	36
1994	24	12	0	--	36
1995	24	12	0	--	36
1996	24	12	22	--	58
1997	24	12	0	--	36
1998	24	12	10	--	46
1999	24	12	10	--	46
2000	24	12	10	--	46
2001	24	12	10	--	46
2002	24	12	10	--	46
2003	24	12	10	--	46
2004	24	12	10	--	46
2005	24	12	10	--	46
2006	24	12	10	--	46
2007	24	12	10	--	46
2008	24	12	10	10	56
2009	24	12	10	10	56
2010	24	12	10	10	56
Total	480	240	178	30	928

Notes

1. Sources for this paper include news articles, discussions with Chinese aviation and military officials, and interviews with several senior American aerospace industry representatives, who have been doing business with China for 10-20 years. The Chinese and aerospace representatives agreed to speak anonymously.
2. FBIS Okinawa, "Jiefangjun Bao Calls for Stronger Air Force," Hong Kong AFP in English, 7 April 1996.
3. Nick Cook, "Lifting the veil on China's fighters," *Jane's Defence Weekly*, 31 January 1996, p. 52.
4. LTC Dennis J. Blasco, LTC Philip T. Klapakis, COL John F. Corbett, Jr., "Training Tomorrow's PLA – A Mixed Bag of Tricks," *China Quarterly*, June 1996.
5. Richard D. Fisher, "China's Purchase of Russian Fighters: A Challenge to the U.S.," Heritage Foundation Backgrounder, No. 142, July 31, 1996.
6. Charles Bicker and Nick Cook, "Russia, Israel helping China build new fighter," *Jane's Defence Weekly*, 25 November 1994, p. 4.
7. This paper refers to the aviation ministry. The ministry has had several names, including the Aviation Industry Bureau (aka the 4th Bureau) of the Ministries of Heavy Industry 1951-1952), which moved to the 2nd Ministry of Machine Industry/MMI (1952-1958), then to the 3rd Ministry of Machine Industry (1958-1960). In 1960, the 3rd MMI split and the 4th Bureau was renamed the 3rd Ministry of Machine Industry (san jibu). The 3rd MMI was renamed the Ministry of Aviation Industry in the early 1980s, then merged with the 7th MMI (astronautics) to become the Ministry of Aero-Space Industry (MASTI) in the late 1980s. In the 1990s, it became the Aviation Industry of China (AVIC).
8. For a more detailed history of the PLA and PLAAF see Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, RAND, 1995. Noted hereafter as Allen, Krumel, and Pollack.
9. For a more in-depth analysis of the PLAAF's defense reform in the 1980s, see Richard J. Latham and Kenneth W. Allen, "Reform of China's Air Force," *Problems of Communism*, May-June 1991, pp. 30-50.
10. The "three pillars" encompassed high-level visits by senior U.S. officials (Secretary of Defense, service secretaries, service chiefs, and commander in chief of the Pacific), functional exchanges (logistics, training, maintenance, etc.), and technical cooperation (foreign military sales programs). For a more extended discussion, consult Woon, Eden Y., "Chinese Arms Sales and U.S.-China Military Relations," *Asian Survey*, vol XXIX, No. 6, June 1989, pp. 601-618.
11. According to a reliable source, Wang Hai, was relieved of command in

1992 after he attended a meeting organized by Yang Baibing without the knowledge of Jiang Zemin, Cao Shuangming was relieved in 1994 due to the increase in number of aircraft accidents, and Yu Zhenwu was replaced in 1996 by Lu Shunyao—the first commander not to have participated in the Korean War.

12. For a more detailed history of the PLA's doctrine and strategy, see Allen, Krumel, and Pollack. Special thanks goes to Paul Godwin for his input.

13. *Shijie Junshi Nianjian* [World Military Yearbook], was published by PLA Press, Beijing, in 1985, 1987, 1989, 1990, 1991, 1992. Each yearbook provided progressively greater detail about the PLA's organizational structure.

14. PLAAF histories do not consistently treat the airborne forces as a sixth branch (*junzhong*) of the Air Force. The Air Force's Logistics Department has its own water transport craft to ship fuel to units along the Yangzi River and coast.

15. Sun Maoqing, "Training Programs Improve Air Force's Combat Effectiveness," *Xinhua*, 27 March 1996.

16. Some sources say, Yu Zhenwu, the senior HqAF deputy commander (by protocol), was passed over as commander in 1992 because the Army viewed him as "too blue," meaning that he advocated greater independence for the Air Force.

17. Discussion with U.S. military officer who visited China recently.

18. *Hangkong Weixiu* [Aviation Maintenance], PLAAF Aero-Engineering Department, Issue 199, Vol 9, 1988.

19. Allen, Krumel, and Pollack, p. 178

20. The four weather conditions refer to day and night visual flight rules (VFR) and day and night instrument flight rules (IFR).

21. Allen, Krumel, and Pollack, p. 93.

22. Lo Ping, "It Costs China 3 Billion Yuan to Make a Show of Its Military Strength," *Cheng Ming*, Hong Kong, 15 April 1996.

23. Steven Mufson, "China Masses Troops On Coast Near Taiwan," *The Washington Post*, February 14, 1996.

24. Part of the reason for this is due to institutional/organizational limitations. Air divisions have a standard TO&E of 72 aircraft. Each division has three regiments of 24 aircraft and at least two airfields—one with two regiments and one with one regiment. Regiments have three groups of eight aircraft, and each group has three squadrons of 2-4 aircraft each. The pilots only fly the aircraft in their squadron.

25. Interview with LtGen (USAF-Ret) Thomas G. McInerney, former DCS/Operations and Intelligence at PACAF Hq, who coordinated the exercise.

26. Discussion with U.S. military officer who visited China recently.

27. LTC Dennis J. Blasco, LTC Philip T. Klapakis, COL John F. Corbett, Jr.,

"Training Tomorrow's PLA – A Mixed Bag of Tricks," 19 October 1995.

28. June Teufel Dreyer, "China's Strategic View: The Role of the People's Liberation Army," p. 2.

29. *ibid.*

30. Nick Cook, "Lifting the veil on China's fighters," *Jane's Defence Weekly*, 31 January 1996, p. 52.

31. It takes two years to produce a single F-8-2. The aircraft are held at Shenyang until 10 aircraft are produced, then they are flown to a PLAAF base.

32. Jonathan Cohen and Andrew Peach, "Table 2.3.3 China's Annual Combat Aircraft Production for Domestic Use 1973-2000," *IDDS Almanac 1996: World Combat Aircraft Holdings, Production, and Trade*.

33. Aleksandr Koretskiy, "China Will be Manufacturing Russian Airplanes on its Own," *Moscow Kommersant Daily*, 7 February 1996. It is the author's view that this deal was made easier because there was already considerable money left over from the US\$500 million joint Sino-US F-8-2 avionics upgrade program (Peace Pearl) that was canceled following the Tiananmen incident in 1989.

34. Patrick E. Tyler, "China to Buy 72 Advanced Fighter Planes from Russia," *New York Times*, February 7, 1996.

35. David R. Markov, "The Aviation Market Goes Global," *Air Force Magazine*, June 1995, p. 26.

36. Allen, Krumel, and Pollack, p. 152.

37. Hsiao Yu-sheng, "China's New Generation Main Military Aircraft," *Kuang Chiao Ching*, Hong Kong, 16 November 1995.

38. David R. Markov, "The Aviation Market Goes Global," *Air Force Magazine*, June 1995, p. 25-27.

39. Charles Bicker and Nick Cook, "Russia, Israel helping China build new fighter," *Jane's Defence Weekly*, 25 November 1995, p. 4.

40. Hsiao Yu-sheng, "China's New Generation Main Military Aircraft," *Kuang Chiao Ching*, Hong Kong, 16 November 1995.

41. Aroosa Alam, "Problems in Production of 'Super-7' with China Reported," *Islamabad the Muslim*, 11 December 1995.

42. Charles Bicker and Nick Cook, "Russia, Israel helping China build new fighter," *Jane's Defence Weekly*, 25 November 1995, p. 4.

43. Unknown, "New Fighter Jet Makes Maiden Flight over Liaoning," Beijing Xinhua, 20 Apr 1996; FBIS-CHI-96-079, 23 April 96, p. 38.

44. Barbara Opall and Michael J. Witt, "China Pushes Ahead with AEW Drive," *Defense News*, August 5-11, 1996.

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PRC Exercises, Doctrine and Tactics Toward Taiwan: The Naval Dimension

by Eric McVadon

Exercises by the People's Liberation Army near Taiwan in 1995 and 1996 heightened anxiety in Taipei, Washington, Tokyo, the capitals of the ASEAN countries, and beyond. Did this combination of missile, naval and air force exercises signal a new attitude and approach by Beijing, or was it simply familiar, if noisier, saber-rattling? Are there lessons to be learned? Do the jarring missile "tests," to use Beijing's term, near and then very near Taiwan reveal more than Beijing brava-do; have the stodgy Central Military Commission and die-hard PLA become more imaginative—and consequently unpredictable or irrational; or do they just reflect Beijing's resolute views on Taiwan? Do these exercises indicate great PLA strides in acquiring advanced weapons, reducing serious deficiencies, and conducting truly joint operations? Is the PLA Navy developing a capability for an amphibious invasion of Taiwan? To what extent did the firm U.S. reaction imply a steadfast commitment to Taiwan, raise Taiwan's expectations of U.S. support, and affect Beijing's view of the United States as a despised central factor in its "Taiwan problem"? These questions are not easy to answer, but they reveal the issues involved if hostilities are to be avoided and if we are to entertain serious hope for an eventual peaceful resolution to arguably the most difficult foreign policy problem facing Washington, as well as Beijing and Taipei—a problem to which all parties have successfully applied enormous energy and admirable imagination over five decades. Despite the numerous emotional flare-ups, regrettable misunderstandings, and frustrating miscalculations, this volatile situation has been contained. Cataclysm and bloodbath have been avoided.

Exercises

Political or Military?

Beijing's Central Military Commission (CMC) has a robust tradi-

tion of conducting exercises more for political purposes than to accomplish military training and improve readiness. Not surprisingly, Taiwan has repeatedly been the focus of such exercises. Most observers would be quizzical if Beijing ceased such exercises, especially in response to perceived provocations from Taipei. When Taipei annoys China's leaders, Beijing beats the war drums and the PLA exercises.¹ This is not to say that no military purpose is served. It appears, in fact, that the missile "tests" and other exercises carried out in the fall of 1995 and the spring of 1996 had worthwhile training components. But training was clearly not the primary purpose, the motivation, or the rationale for the nature and timing of the exercises. As was apparent, the PLA demonstrated its capability to fire M-9 missiles from the locations and on approximately the azimuths for targeting Taiwan, the type mission for which the M-9 was designed but had never been used. Still, the central aim of the missile launches was intimidation. True to form, Beijing executed a blatant, heavy-handed campaign to influence the Taiwan elections and to deflect Taiwan from its thrust toward even greater autonomy and ultimately possible *de jure* independence.

Realism or Tokenism?

The March 1996 operation, called Exercise Strait 961, has been described by experienced analysts as a rehearsal of a contingency plan for the invasion of Taiwan. Certainly there were portions of the 18-day exercises that provided training in command and control, staging of forces, etc.—elements of such a plan. However, there are two very realistic and interesting—if unintended—aspects of the conduct of Strait 961 that seem especially pertinent to an evaluation of whether the exercise was an invasion rehearsal:

- Although this was a significant assemblage of PLA forces, it consisted of only a token force compared to that necessary for a full-scale invasion. The size and capabilities of the exercise force were tiny fractions of that which might have hope of a successful amphibious assault on Taiwan. The forces involved were so unrepresentative of the breadth and magnitude of the required effort that it is hard to imagine much was learned about the real tasks and problems of assembling the force, providing massive logistic and communications support, exercising coordination over far-flung diverse units, and on and on. The scope

of Exercise Strait 961 seems, under scrutiny, more to highlight the differences between the small scale of the exercise and the huge numbers and prodigious scale of a real operation (and to reveal PLA shortcomings) than to raise fears that an amphibious assault capability was being fine-tuned. The PLA did not rehearse an amphibious invasion of Taiwan.

- Bad weather, a hallmark of the Taiwan Strait, severely curtailed the final portions of the exercise. Weather patterns are a major factor in contingency planning and naval operations in the Taiwan Strait. Periods when favorable weather is highly likely are limited. The threat of high winds, severe storms, and other climatological problems not only jeopardize an assault force and complicate its task but also permit defending forces to concentrate on periods when an invasion force could conceivably transit the strait and to regroup when the weather precludes such operations. Strait 961's amphibious landing phase was defeated resoundingly—and realistically—by bad weather.

Under the Cover of Exercises

Although the relentless succession of exercises directed against Taiwan over recent years falls far short of realistic rehearsals of an amphibious invasion, they could serve other purposes for the PRC. They could obscure preparations for actual operations, operations the PLA may not be ready to conduct for years to come. PLA logisticians may stockpile materiel where it would be needed for some future operation against Taiwan. The logistic build-up process may involve gradually constructing storage facilities and leaving behind, with each exercise, sizable stores. The exercises also provide PLA units an opportunity to familiarize themselves with staging to the area. Further, the combination of prepositioning and regularity of the exercises may delay the recognition by U.S. and ROC intelligence of the true nature of some future actual operation and add uncertainty. That which may be seen as yet another exercise could for days or weeks disguise a buildup and give the PRC a head start, leaving Taiwan tardily scrambling while the United States and other countries belatedly try to sort out whether confusing indicators of possible imminent hostilities are credible. In an already difficult decisionmaking situation, a history of increasingly realistic exercises may lead many to cling for too long to

the conclusion (or hope) that this is just another exercise—until so much has transpired there is little time to prepare defenses.

Amphibious Assault of Taiwan, a Tall Order

It is important to appreciate the size of the force, complexity of the task, and risk necessarily involved in an amphibious assault of Taiwan. Beijing has not, of course, revealed the number of troops their contingency planning envisions, but numbers as large as 400,000 to 600,000 have reached Western ears and are not unrealistic. Even a fractional part of those numbers exceeds by many times the transport capabilities of all of the PLA Navy's amphibious forces.² Then there is equipment ranging from tanks and artillery to bulldozers and radios plus all that must support the force, from fuel and ammunition to spare parts and food. *The PRC has not built an amphibious and logistic force to carry out an invasion of Taiwan.*

The trend in development of PLA amphibious capability is also of interest. The PRC does not have significantly more amphibious shipping and landing capability than it had a decade or two ago, although it has built several new amphibious ships. This modest force did not then have, nor does it now provide, the capacity to transport even one-tenth of the troops and equipment that would be needed to conduct a successful amphibious assault against strong and determined opposition of the magnitude available to defend Taiwan. As a March 1996 study by the Center for Naval Analyses (CNA)³ states, "China has not emphasized development of either aircraft carriers or sea lift capable of carrying large numbers of troops." The CNA study shows that the numbers of PLA Navy amphibious ships have decreased over recent years. For example, the number of tank landing ships (LSTs) has decreased from 22 to 18 since 1986; medium landing ships (LSMs) are down from 46 in 1990 to 32 now; the number of medium and utility landing craft (LCMs and LCUs) has decreased from 520 to 403 over the last decade. Certainly, the numbers are not the whole story: Some ships in the current inventory are more modern and capable, and many of the retired ships were decrepit. There are these and other practical reasons why the force has changed, but *it simply cannot be factually asserted that the PLA Navy has undertaken a major building program to provide the capability to invade a well-defended Taiwan.*

Also, Taiwan is a difficult place to invade. It has not historically been a target for amphibious operations as have Okinawa, the Philippines, and other nearby locations. Even in World War II, the heyday of amphibious forces, Formosa, for several reasons, was not subjected to amphibious assault. Suitable landing beaches on Taiwan are scarce; much of the western coastline is protected by extensive, shallow mud flats that severely complicate—or may make impossible—getting amphibious ships close enough to put troops and equipment ashore short of extraordinary measures, measures that would require extensive advance construction and preparation almost certain to be detected months or years ahead of time. (Some have imagined specially designed lighters to ferry troops and equipment across the shallow stretches or exotic unfolding ramps to bridge the final distances of hundreds of meters over treacherous mud.) Consequently, those few beaches in the northwest, northeast, and far south that are suitable for a landing can be extremely well defended or isolated so that a landing on them would be disastrous or useless. The east coast is at least as difficult, with mountains and cliffs bordering the sea, providing, at best, narrow strips of land with very poor access inland. Forces landing there would be untenably vulnerable, ashore but with nowhere to go and no place to establish a defensive perimeter or even to hide.

Further, and very important, Taiwan is now a cherished democratic homeland for more than 21 million people who have an armed force, even with its shortcomings and unmet requirements, that has been focused on a potential invasion from the mainland for decades. Much thought and preparation have been given to defense against an amphibious assault. The defenders will have intense incentives to protect their homes and homeland, as well as the willingness to pull out all the stops and bring to bear all the resources of the country to repel the invading force. Taiwan is no remote island military base defended by a force lacking attachment to the soil for which they must fight. The defenders will be motivated by the fact that the lives and well-being of families, friends, and countrymen are at stake. Taiwan, as the objective of an amphibious assault, is no Guam or Saipan from World War II, and those distant unpleasant islands, occupied by the Japanese (not home to the defenders), were anything but easy operations for capable and practiced amphibious invaders. The task of invading Taiwan may

more closely resemble the assaults on the Russian front, which German troops never forgot or, looking closer geographically and culturally, the home islands of Japan that U.S. forces did not want to invade because of the extreme difficulties and enormous casualties anticipated.

Alternative Invasion Scenarios: Assault by the Fishing Fleet.

Beijing's possible alternatives to a classic amphibious assault are often bandied about. One concept is for the PLA to use thousands of fishing craft and similar small vessels to supplement the inadequate amphibious force. In attempting such an operation, planners must, as noted, be very concerned about the notoriously bad weather of the strait, including prolonged high winds and seas that often jeopardize or restrict even destroyer-size ships for all but a few weeks of the year. It is one thing to keep fishing boats afloat in such seas and yet another for diverse fully laden boats to make good a course and speed, remain together, and end up in the right place on time. Further, the fishing-boat concept lacks provisions for landing commensurately large numbers of tanks, artillery, armored vehicles, trucks, and other equipment and for ensuring the logistical support that would be required to keep this force from becoming something other than a very large group of hostages.

At least two other practical matters should be taken into account in evaluating this concept: The number of small craft required to carry troops counted in the hundreds of thousands and the coordination required to keep military units together and land them at the right places are mind boggling. The extended time they would be at sea on excruciatingly slow fishing boats, especially in any but ideal sea states, is another important consideration in every way from prolonged vulnerability to attack to the effects of fatigue, sleeplessness, and seasickness. The necessary tasks of coordinating, escorting, guiding, and protecting these craft from air and surface attack are simply too difficult to attempt. Even if all this could be overcome and these craft were to reach assigned positions off the coast, there would then be the problem of several thousand fishing boats facing the limited options of entering various harbors, intentionally running aground on unprepared rocky or muddy coasts, or just stopping in shallow water and having troops wade or swim ashore, carrying their rifles, machine guns, mortars, and equipment with them.

Someone recently suggested that this operation would enter the history books as the "Million-Man Swim," an assessment with which it is hard to argue. In short, were this idea to work, it would be nigh on to miraculous.

Seize a Port and Take Taiwan from There

A second concept now in vogue is that the PRC would seize one or more ports and/or airfields on Taiwan through the use of its amphibious forces, special forces, fifth column, air assault, and other means, presumably after softening up the defenders with missile and air attacks. Then the PLA Navy's seven Qionghsha-class troop transports, assorted merchant ships, and various other ships would transport the bulk of the troops and equipment and unload at the wharfs of the seized port(s). Meanwhile, reinforcements for the assault force and other items urgently needed could be brought in to the seized airport.⁴

This operation would also greatly favor the defending forces. Even if the ports and airports could be attacked and secured as suggested, ROC forces then could concentrate on blocking entry into the port(s) or preventing landing at the airfield(s), disabling the critical facilities and interdicting exit routes from those locations. Port and airport facilities designed for peacetime use by merchant ships and civil aircraft are extremely fragile when exposed to softening up and assault and then to the types of attack and sabotage the forces and people of Taiwan could bring to bear. In addition to the extraordinary vulnerability of cranes, handling equipment, air control systems, and other elements, there is the ability readily to disrupt, disable or destroy electrical power lines, roads, railways, etc. It cannot be expected, as this scenario seems to envisage, that, under these extreme circumstances, Taiwan will take only moderate measures to counter a seizure. *An operation of this sort, even if carried out in conjunction with other military operations, would have unacceptably low odds for success.*

One cannot ignore the possibility, however, that Beijing will undertake, through error, bad judgment, a radically different evaluation of the risks—or because it feels compelled to do so—an operation that others consider imprudent or doomed to failure. But it is highly improbable that, should Beijing wish to conduct an invasion of Taiwan, it would foolishly put its national prestige on the line and its Navy and Marine Corps plus the best of its air and ground forces at major risk.

PLA planners and commanders will consider likely success a prerequisite to serious consideration of a major operation. *The PLA is not within reach of carrying out a conventional amphibious invasion of Taiwan or executing a variation of that along the lines described. Beijing has no pressing reason to court disaster, especially when other means are available to accomplish the task, as discussed below.*

Doctrine

Available Clues

We do not have Chinese documents that lay out the PLA's doctrine toward Taiwan, but we do have clues to the thinking of PRC strategists. As is evident from the composition of the amphibious fleet, the PRC's development of this force tends more to forays and resupply in the South China Sea rather than large-scale power projection. Other areas of PLA development appear much more pertinent to potential hostilities with Taiwan. The development, production in numbers, and deployment opposite Taiwan of the 600-kilometer M-9 (Dongfeng 15) ballistic missile reveals, as has been demonstrated convincingly, a serious side of Chinese military force development with respect to Taiwan. Similarly, the national decisions to spend several billion dollars on the Russian Su-27 fighter aircraft program reveal a real concern for air defense and for achieving air superiority over the Taiwan Strait and coastal areas. Similarly, the procurement from Russia of the modern SA-10 surface-to-air missiles, with extended range compared to earlier systems, reflects a genuine concern with air defense of Beijing, other major cities, and military complexes within range of attack from Taiwan. *These procurement decisions confirm that the PLA wants to be able to terrorize Taiwan and keep Taiwan's forces from being able to strike China.*

Pertinent PLA Navy Trends Easily Overlooked

The PLA Navy has undertaken developments that are directly relevant to competition with Taiwan's forces. As illustrated in Table A⁵, the development and production of antiship cruise missiles have received enormous attention in the PLA Navy. While many in the West have focused on big and flashy items, such as the much-discussed, yet defunct, aircraft carrier program, and pointed unrealistically to the

Table A
Chinese Anti-ship Cruise Missiles*

DESIGNATION	RANGE	MACH	WARHEAD	ALTITUDE	GUIDANCE	REMARKS
HY-1	46 km	1.3	500 kg	100-300 m	I-band active radar	on older DDs, FFs, PBMs
Haiying (HY) 2 series (subsonic)						HY-2 a/b/g: Luda DDG, Jianghu FFG (exported to DPRK, Iran, Iraq, Egypt, Pakistan, and Bangladesh)
HY-2A/C-201	95 km	0.9	513 kg	100-300 m (cruise)	active radar	solid booster & liquid propellant engine
HY-2B/C-201	95 km	0.9	513 kg	100-300 m (cruise)	infrared	solid booster & liquid propellant engine
HY-2G/C-201	95 km	0.9	513 kg	30-50 m (cruise)	added radio altimeter	solid booster & liquid propellant engine
C-601	150 km	0.9	300 kg		monopulse active radar	B-6 bomber air-launched, air-breathing
C-611	200 km	0.9	300 kg		monopulse active radar	air-launched, liquid propellant
Haiying (HY) 3 series (supersonic) [SS]						All with solid booster (SB) & ramjets (RJ)
HY-3/C-301	180 km	SS	513 kg	100-300 m	cm-wave monopulse active radar	ship-launched, 4 SB plus 2 RJ
YJ-1/C-101	180 km	SS	300 kg	50 m cruise 5-7 m terminal	cm-wave monopulse active radar	ship: SB plus 2 RJ; Luda DDG and Jianghu FFG ; air: 1 SB plus 2 RJ
Haiying (HY) 4 series (subsonic)						"Chinese Exocet"; Luhu & Luda DDGs, Jianghu III & Jiangwei FFGs, Houjian & Houxin PBMs
YJ-8/C-801 (aka YJ-1) YJ-81	50 km 60 km	0.85 0.85	165 kg 165 kg	50 m cruise 5-7 m terminal 50 m cruise 5-7 m terminal	mm-wave monopulse active radar; frequency hopping same as above	SB & solid motor, ship-launched (exported to Iran, Thailand, and Peru)
YJ-82	40 km	0.85	165 kg	50 m cruise 5-7 m terminal	same as above	future use on Navy FB-7
YJ-8A/C-802 (aka) YJ-2	135 km	sub-sonic	165 kg	50 m cruise 5-7 m terminal	same as above	SB & solid motor, sub-launched possibly on Han SSN SB & Italian turbojet (exported to Iran)

*Designations for anti-ship and related land-attack versions are inconsistent, and missile categories and designations vary greatly among sources.

Table B
Comparison of Selected PLA and Taiwanese Naval Forces

Category	PLA Forces	Taiwanese Forces
Personnel	260,000	68,000
Submarines Nuclear-attack subs Front-line diesel attk Capable diesel attk Obsolescent dsl attk	47-87 5 Han-class (plus 1 Xia SSBN) 2 Kilo-class; 1 Song-class 10 Ming-class 30-70 Romeo-class	4 0 2 Zwaardvis-class 2 modernized ex-USN Guppy-class 0
Destroyers Front-line DDGs Capable DDGs	19 2 Luhu 17 Luda	22 0 22 converted ex-USN DDs
Frigates Front-line FFGs Capable FFGs Obsolescent FFs	37 4 Jiangwei (plus 2 under construction) 27 Jianghu, 1 Jiangdong 5 Jiangnan	12 3 Kwang Hua I-class (6 French La Fayette or Kwang Hua II and 5-12 modified Perry or Kwang Hua I in future) 9 ex-USN Knox-class
Patrol Boats Front-line PGMs approx. 10 Houxin Capable PGMs Other patrol boats	approx. 530 1 Houjian 79 Huangfeng (35 in reserve) 1 Houma; 70 Houkou 370 various types	116 50 Hai Ou-class 2 Lung Chiang-class 64 various types
MineWarfare Ships Coastal sweepers Ocean sweepers Countermeasure	approx. 250 93 (50+ may be in reserve) 41 approx. 125	approx. 30 9 0 15
Amphibious Ships Transports LSTs Med. Landing Ships Utility Landing Craft	approx. 198 7 Qionghsa APs; 17 AKs 6 Yukan, 2 Yuting, 13 others 33 23 Yuling, 107 others	26 1 command ship, 1 landing ship dock 13 ex-USN LST 1s & 542s 4 ex-USN LCUs 24 ex-USN LCUs
Landing Craft Conventional Air-Cushion craft	approx. 380 300 Yunnan, 50 Yuqin, 30 Yuchai 1 Dagou A & several others	370 250 ex-USN LCMs, approx. 120 ex-USN LCVPs 0

imminent development of a blue-water navy, the PLA Navy has become a formidable cruise missile force. It has done so because its priority has been a capability to conduct combat operations against Taiwan naval forces without sustaining heavy losses. Table B shows that the surface combatant ships of China and Taiwan are roughly comparable in types and numbers. The PLA Navy destroyer force is slightly smaller than that of Taiwan but more modern, headed by the newest turbine-powered Luh-class, with two ships of the class launched and two more to be built.⁶ Taiwan's Navy frigate force is smaller but growing rapidly, and is composed increasingly of much more capable ships than those of the PLA Navy, assuming they will be manned, maintained, and operated properly—not a foregone conclusion with respect to either of these navies. Of note, Taiwan's frigates are twice the displacement of PLAN frigates and almost the size of Chinese destroyers. Both navies have guided missile patrol boats of sufficient modernity and capability to pose legitimate concerns to the other side.

Near Obsession with Cruise Missiles

The crux of the matter, from the PRC perspective, is that Taiwan's destroyers and frigates appear to have cruise missiles, including American Harpoons, that are at least as capable as the missiles China has deployed so far. China's response has not been to develop missile defenses—a devilishly difficult task—but rather to concentrate on better antiship cruise missiles, something it has felt quite competent to do. As shown in Table A, the latest of the HY-4 series has a range of 135 kilometers (owing to an Italian mini-turbojet engine), sea-skimming cruise and attack altitudes, and a sophisticated millimeter-wave monopulse homing system that can provide pinpoint accuracy and resistance to jamming. The thrust is essentially to overwhelm by—numbers and capability of missiles—the surface combatant force that Taiwan can put to sea.

Only Offense—No Defense

But the picture is more complex. The PRC has excelled in the cruise missile arena but fallen far short in protecting its ships from the antiship cruise missiles which Taiwan's Navy has had good success in acquiring abroad or domestically. The PLAN has no missile defense. It has also failed to achieve the means for targeting its own missiles, for

over-the-horizon (OTH) identification and targeting of enemy ships; but until it can incorporate that system it cannot take advantage of its long-range missiles to stay out-of-range of Taiwan's missiles against which it cannot defend.

Meager Air Defense

Only a handful of PLA Navy ships have reasonable air defense systems—and those are short-range defenses. None have modern air defense radars, or even medium-range surface-to-air missiles, much less integrated air defense systems to provide for early detection, tracking, and assignment of air targets to missile batteries and combat air patrols.

How Taiwan's Navy Looks From Beijing

Taiwan's ships have what appear to be far superior air defense systems; and, of particular note, even some older ships have at least a reasonable chance of detecting and engaging incoming PRC cruise missiles, including as a last resort the Phalanx close-in weapon system (CIWS), resembling a Gatling gun. It is not certain that these systems will protect Taiwan's ships, but the PLA Navy fears many of its missiles may be downed, leaving its ships naked to attack and re-attack from surviving Taiwan forces. Beijing sees this air and missile defense gap between naval forces widening with Taiwan's ongoing acquisition of truly modern, capable frigates. Delivery to Taiwan will continue through 1998 of what may be the world's most modern-looking warship, the six frigates of the French La Fayette class, called the Kwang Hwa II in Taiwan. The first of these extremely impressive warships was received just prior to the May inauguration of Taiwan President Lee Teng-hui, fueling Beijing's consternation.

A "Stealth Ship" Flying Taiwan's flag

This large frigate's sleek, slanted hull and unique superstructure reduce the ship's detectability by radar. Recesses and equipment have been eliminated or covered to present smooth lines, and radar absorbent resin is used extensively. The engines are mounted so as to reduce noise detectable by submarine sonar, and modern degaussing keeps the ship less vulnerable to mines. The hull design makes the ship particularly seaworthy in heavy weather, a significant factor in the Taiwan Strait. These features are complemented by an integrated command system for modern missiles and other systems. The point is that

Taiwan's Kwang Hwa II is not the kind of ship that the PLA Navy is capable of producing. Seeing these ships, one after another, plying the Taiwan Strait is alarming and angering to the PLA Navy and to Beijing.

More Frigates That Outclass the PLA Navy's New Jiangwei Class

The other class of modern frigates Taiwan is acquiring, the Kwang Hwa I, is less awesome in appearance but also a very capable modern warship, modeled on the American Oliver Hazard Perry class. Of particular note are the phased-array air search radar, the Sea Sparrow surface-to-air missiles, and the two Phalanx close-in weapon systems, putting this ship orders of magnitude above PLA Navy ships in air and missile defense.

No Assurance of Sea Control in the Strait, Even for a Modernizing PLA Navy

For the present, the PLA Navy is forced to live with its deficiencies in air defense, missile defense, and over-the-horizon targeting capabilities, shortcomings that put the PLA Navy at risk of losing many of its major combatants early in a conflict with Taiwan's Navy. *The consequence of this situation for PLA Navy leaders is that their doctrine for dealing with Taiwan cannot include assurance of sea control of the Taiwan Strait and adjacent Chinese and Taiwan coastal waters.*

Putting the Shaky Submarine Force in the Equation

If forced into a battle for these waters by orders from the Central Military Commission, the PLA Navy would likely attempt to use its submarine force, much larger than that of Taiwan, in a war of attrition against Taiwan's combatant ships. Thus a pertinent issue is the capability of the PRC's submarine fleet. The five Han-class nuclear attack submarines are noisy and unreliable, easily detected and tracked—conceivably even by Taiwan's limited antisubmarine forces. China's 30 to 70 (many are in the reserve or in uncertain status) operational Romeo-class and 10 Ming-class diesel-electric submarines have limited capabilities, lacking speed, endurance, and modern systems, but they are of concern because of their sheer numbers. The two Kilo-class submarines China recently acquired from Russia (with two more improved versions expected) are a different story, having considerable capability—assuming that the PLA Navy will continue to stay on top of the maintenance and operation of the submarine's advanced systems.⁷ Somewhat more uncertain, but also troublesome to Taiwan, were the

implications of the launching by China in 1994 of the first vessel of the indigenous Song class,⁸ with modern quieting features and the rumored ability to launch cruise missiles while submerged.

Taiwan's Small Submarine Force

Taiwan's Navy has made valiant attempts to overcome international political problems and enlarge its tiny submarine fleet, but it has not succeeded. The United States has not supported Taipei's effort, and the Dutch, German, and French governments have turned down Taipei's requests for additional modern diesel submarines. Consequently, Taiwan has only two modern diesel-electric submarines of the modified Dutch Zwaardvis-class, built in the late 1980s. Additionally, there are two U.S. ex-Guppy II-class submarines of little use, built in the 1940s and originally transferred to Taiwan for use in antisubmarine warfare training.

Despite the limitations, PLA Navy strategists may see their submarine force and its superiority over Taiwan's as significant factors in potential conflict with Taiwan, even if the force is composed of many marginally capable vessels and a few modern ones still new to their fleet. Absent an outside modern antisubmarine force, such as might be supplied by the United States or Japan, PLA Navy submarines could bottle-up the ROC Navy or exact significant losses, while likely incurring only acceptable losses of older submarines. *In a naval blockade or quarantine, the PLA Navy submarines could be the most difficult force for Taiwan to cope with unaided, having the ability while remaining hidden to employ both torpedoes and mines.*

PLA Naval Aircraft

The use of naval aircraft in sea control is problematic for the PLA Navy. Their front-line aircraft, 50 F-8-1s and 20 F-8-2s, along with PLA Air Force fighters, could provide very limited protection from air attack for PLA Navy ships. The few modern fighters and many pressing missions (other than air defense of ships) will make it difficult to spread aircraft so as to keep combat air patrols aloft to protect all of the PLA Navy units that may be operating in dangerous waters.

Crude, Chaotic Air Defense at Sea

Additionally, as best we know, all these PLA air interceptors are heavily, if not wholly, dependent on ground control radar to intercept

opposing aircraft. Although the distance across the strait is not great, ranging from roughly 70 to 150 miles (130 to 277 kilometers), defense of ships is not practical for the PLA aircraft under this form of control. Even within the strait, and surely in more distant waters, low-flying Taiwanese aircraft conducting raids on PLA Navy ships could stay below the radar horizon and remain undetected by radar on the mainland or offshore islands. The PLAAF for the present, at least, lacks even an elementary airborne early warning (AEW) system, much less a sophisticated AWACS to contend with this problem. PLA Navy ships, equipped with obsolescent air search radars and lacking compatible control systems and joint training, are not capable of managing a complex air battle—sorting friend from foe, assigning targets to covering aircraft or to those few ships with even short-range missiles, and designating urgent threats. It is likely that quite crude systems of controlling engagements are all that could be employed by the PLA Navy; e.g., all aircraft in certain areas would be considered hostile, or similar provisions could be applied for blocks of altitude or periods of time. All this intolerably limits the flexibility and effectiveness of the defenders and dooms the effort to a collapse into confusion in combat. Add cruise missiles to the air defense picture and chaos results.

PLA Navy Attack Aircraft: Very Old or Too New

Looking at another aspect of naval aviation, the PLA Navy has two types of aircraft intended to launch antiship cruise missiles. Some or all of the navy fleet of 30 Hong-6 (called B-6 or Tu-16 Badger in the West) obsolescent medium bombers are equipped with missile guidance radar and modernized avionics. They carry the Mach 0.9, 150-kilometer C-601 missile, a threat to surface ships even if not as capable and resistant to countermeasures as more modern missiles; however, the B-6 would not be effective in a high-technology environment. The new FB-7 aircraft is under testing. Three of five prototype aircraft (two were lost) are being tested, we believe, with the air variant of the C-801 (the YJ-81 in Table A), a very capable antiship missile with many features that make it hard to down. If the FB-7 mated with this missile pans out (far from certain) and joins the PLA Navy in numbers, concerns about the potency of PLA Navy cruise missiles should be ratcheted up a notch or two. But, conversely, Taiwan's shipborne air and missile defense against the Hong 6, the FB-7, and the missiles they carry will similarly

worry PLA Navy aviators and their commanders.

Target Acquisition

An important factor in the employment of these antiship cruise missile systems is target identification and designation, as mentioned previously. The PLA is still at the stage of trying to develop or acquire an over-the-horizon targeting system to take advantage of the extended ranges of many of its antiship missiles (over 100 kilometers—comparable to that of the widely deployed earlier versions of the U.S. Harpoon antiship missile). The problem of locating targets is complicated by the air defense capabilities of most of Taiwan's combatants, the targets worth attacking with limited shipboard loads of cruise missiles (especially for a navy without a full capability for replenishment and reloading of missiles at sea). An aircraft close enough to a ship to visually identify it, even in daylight and good weather, is likely to be within range of Taiwanese missiles. In some cases, radar targets at long ranges may be correlated with electronic emissions associated with Taiwan's ships, but this assumes that the ship is "cooperatively" radiating the telltale emissions, the PLA Navy patrol aircraft can analyze such signals (the PLA Navy is not advanced in electronic warfare), no confusion exists with ships of other nations that emit similar signals, and navigational accuracy and other coordination problems do not bollix-up the targeting solution. This illustrates the difficulties for the PLA Navy in achieving targeting capabilities approximating those used by modern navies, which have the advantages of very sophisticated satellite information or advanced airborne radars that can, through special techniques, precisely identify ships in real time and provide course and speed, all ascertained from distances well beyond missile ranges.

Lots of "Bullets" and Nothing to Shoot

To sum up, PLA Navy commanders consequently must cope with a situation wherein they have many excellent antiship cruise missiles but are restricted in their use by inadequate long-range targeting methods and by the legitimate concern that their forces, lacking in air and missile defense, are unacceptably vulnerable to attack by Taiwan's Air Force and the antiship missiles of Taiwan's naval combatants, ships which do have substantial capability to stand and fight in the face of air and missile attack from PLA forces. The PLA Navy may thereby be forced to

place inordinate reliance on submarines—their two (five by 1997) modern diesel submarines and numerous less-capable submarines. The PLA Navy surface combatants in a conflict will not, of course, resign themselves to inaction or destruction, but these factors prevent Beijing from employing an appealing doctrine that envisages sea control of the Taiwan Strait and adjacent waters. Harking back to the issue of a capability to conduct an amphibious invasion of Taiwan, the air and missile defense and other problems described prevent the PLA from taking control of the Taiwan Strait and moving amphibious and other shipping back and forth at leisure, staging transports, and shuttling and unloading in relative safety. Consequently, any amphibious operation, even if the PLA could mount a serious one, would be plagued with the risk of heavy losses in waters at least contested and possibly controlled by the Taiwanese defenders. *The PLA Navy contends with unacceptable shortcomings in both amphibious assault and sea control capabilities.*

An American Role

So far, an important factor has largely been ignored that may weigh more heavily on the minds of senior Chinese leaders and military officers than the balance of forces with respect to Taiwan: the potential role of U.S. forces in a conflict. Some observers contend that Washington's dispatch of two aircraft carrier battle groups to the vicinity of Taiwan during the March 1996 exercise made it explicit that the U.S. would join the fight if the PRC undertook military actions against Taiwan. If that is true, one can still envision varying degrees of U.S. support. For example, the United States may, openly or secretly, elect to provide passively only intelligence concerning PLA preparations, movements, force levels, unit locations, etc. Or, Washington may at some stage wish to act within very narrow limits. For example, U.S. antisubmarine forces (submarines, aircraft, and surface units) could covertly track PLA Navy submarines and provide information to Taiwan's Navy. PLA Navy leaders know well the enormous superiority of American anti-submarine forces. Given the importance of its submarine force, it would be a big blow to Beijing were the United States then to escalate its support in this single area and demand that all PLA Navy submarines remain in port or risk attack. Similarly troublesome to Beijing might be the provision to Taiwan's Navy of real-time targeting data on PLA Navy ships. U.S. support for Taiwan might take various forms

short of full engagement in hostilities and need not involve carrier battle groups.

But There Are the Carriers!

There is no doubt, however, that carrier battle groups are the instruments that the United States is likely to employ to prevent escalation of a crisis, to attempt to stop hostilities, or to destroy forces as necessary to end a conflict on terms acceptable to Washington. Put bluntly, PLA naval ships and aircraft are not able to conduct effective combat operations against the U.S. Navy.⁹ Their combat systems do not permit them to defend against attacks by modern weapon systems, and they would not be able to detect and attack U.S. forces under any but the most exceptional circumstances. The PLA Navy could be destroyed virtually at will whether in port or at sea. The same situation applies to any matchup of PLA and U.S. air (and ground) forces. Even the PLA units that have received modern equipment (the “islands of excellence” in the PLA) are not capable of technologically advanced warfare.

A PLA Naval Doctrine Based on Capabilities

Consequently, realistic PLA Naval doctrine toward Taiwan, revealed by PLA actions and capabilities, currently comes down to achieving Beijing’s political goals *without taking on Taiwan’s Navy and certainly without bringing about the entry of the U.S. Navy and other U.S. forces into the conflict—but having to plan for and worry about both of those daunting challenges*. Resolution of the severe shortcomings in air and missile defense and targeting are high priorities for PRC military research and development, but the initial attempts at work-arounds (that would provide other alternatives) seem to have taken a familiar PRC form: Ignore the real problem and concentrate on something with which one is more comfortable, whether or not that will really work. In this case, the Chinese are pleased with their prowess in the production of cruise missiles, so they have developed many types for domestic use and export and produced many missiles, just as they are revealingly doing with the obsolescent J-7 fighter airframe derived from the Soviet MiG-21 of the 1960s. *For the time being, the PLA Navy—for wholly understandable reasons—will continue to tout widely its impressive arsenal of antiship cruise missiles, installed on virtually all large and small combatant ships and craft, and yet hope that the Central Military Commission does not paint itself*

into a rhetorical corner and direct the PLA Navy to commence combat operations against Taiwan's Navy or, worse yet, expect the PLA to mount an amphibious invasion of Taiwan.

Trying to Cope with Carriers

Beijing is seeking a means to deal with American aircraft carriers and their battle groups, including Aegis guided-missile cruisers and destroyers, guided-missile frigates, and nuclear-powered attack submarines. Beijing's fury over Washington's dispatch of the Independence and Nimitz groups in March 1996 was much more than political pique. Beijing is fully aware that carrier battle groups using their aircraft, Tomahawk and Harpoon missiles, and other systems, including antisubmarine forces, can essentially prevent the PLA Navy from deploying from its naval bases, much less accomplishing missions. It is hard to imagine that Beijing is just "living with" this problem. As part of its development of doctrine, we should expect an effort by the PLA to counter the constraints imposed on Chinese actions by U.S. carrier battle groups. One must surmise that, at a minimum, the search is underway for methods to determine the locations of highly mobile carriers. That might be a first step toward posing some minimal threat, to at least cause American commanders to think twice about sending a carrier at the first sign that Beijing once more has its back up. *Beyond that, we should expect that the Chinese are attempting to devise a method, by whatever means possible, to reduce the effectiveness of carrier battle groups—short of the illogical action of using a nuclear-tipped missile.*¹⁰

It is hard at this stage to imagine the form possible Chinese counters to aircraft carriers might take. It need not be a system to shoot down U.S. airplanes or damage or sink all the carriers the U.S. might send to the region. The Chinese believe that Americans are unwilling to sustain large numbers of casualties in a conflict. Recent events have reinforced this Chinese conviction.¹¹ Chinese military thinkers may well be thinking about U.S. carriers as huge, valuable targets carrying 80 or so highly sophisticated and expensive aircraft and 6,000 sailors on a single ship. They may be trying to devise a scheme that will threaten many U.S. lives, some way within their reach to be able to threaten or cause extensive death and injury. Beijing could hope that quiet diesel submarines like the Kilo and Song, or a very quiet new class of nuclear submarines based on the latest Russian technology,

might eventually be part of that scheme. Alternatively, and probably with no greater chance of success, the PLA's new but intense interest in information warfare may be applied. The effort might be to disrupt or destroy vital information systems within the carrier battle group. However unlikely success is in these endeavors, they may be a part of the doctrine the PRC feels it must adopt if it is to be able to accomplish its goals with respect to Taiwan, if the unfortunate decision is made by the CMC to employ force. *Beijing need not defeat the U.S. Navy and its carriers, just deter or curb any U.S. effort to defend Taiwan against China.*

Not Just Carrier Aircraft

Beijing has not recently complained about U.S. Air Force land-based air, probably because these forces have not been employed conspicuously. This choice by Washington has avoided the sensitive issue of highly visible crisis air operations from U.S. bases in Japan and Korea. However, Beijing has to keep in mind the consequences of behavior so onerous that it would bring about not only renewed U.S.-Japanese resolve and solidarity (as the 1995-1996 exercises against Taiwan did) but also might result in far greater freedom and flexibility for the U.S. to use bases elsewhere in Asia (maybe even once more in the Philippines) in reacting to Chinese provocations and intimidation of Taiwan, and reflection by Seoul on the implications of its close ties with Beijing. And the same consideration might apply to Chinese bullying tactics (or worse) in other areas, notably the Spratly Islands in the South China Sea. Moreover, such actions by China may serve to fulfill the oft-stated Chinese prophecy of resurgent Japanese militarism—in the form of the Japanese Self-Defense Force acting with the United States in response to unacceptable action by the PLA, especially the PLA Navy.

Tactics

Not Just the Same Old Things

After decades of familiar saber-rattling and military exercises (some more sound than substance), the CMC, in response to the visit of Taiwan President Lee Teng-hui to the United States and other troubling actions by Taipei, demonstrated in 1995 and 1996 unexpected imagination and boldness. Some observers described their actions as pre-

dictable (even if not predicted)—as just what Beijing has said it would do in its perennial ranting about Taiwan. Some accused Beijing of overreaction, especially the March round of missile firings and the rumors that more missile shots were to come that might not be so accurately placed just offshore. One plausible explanation is that the world was witnessing what happens when the Chinese leadership and PLA really get their dander up and seek to preserve what they see as China's fundamental interests—sovereignty over Taiwan in this case. Whatever the actual case may have been, the PLA, with its missile “tests,” threw off the bonds of routine ground, naval, and air exercises and, without question, got the attention of Taiwan, the United States, and other concerned countries, including Japan and, to a lesser degree, watchful ASEAN countries.

Choosing Missiles, a PLA Forte

The tactic of lobbing missiles at Taiwan was bold but also cautious. There was, of course, the chance that the missiles would have been highly conspicuous failures or that they would have been embarrassingly or disastrously inaccurate. However, the CMC took advantage of an unquestioned PLA strength—short-range ballistic missiles, missiles likely developed with Taiwan in mind. And these ballistic missiles had the appropriate specific capability of delivering conventional warheads, even if other warheads are also possible for that family of missiles.

What the PLA Did Not Feel Confident To Do

Beijing did not chance revealing its weaknesses. It did not try foolishly to fill the skies of the Taiwan Strait with air superiority fighters or conduct simulated massed strikes by swarms of precision attack aircraft against targets that resemble or simulate Taiwan. Instead, there was moderate participation in limited exercises by PLA Air Force and Navy planes, including the 26 Su-27s from Wuhu air base. Beijing did not mass a naval armada to suggest that it could control the strait and surrounding waters or assemble an imposing amphibious task force to underscore an ability to assault Taiwan from the sea. Chinese submarines did not pop up ominously on the approaches to Taiwan's ports or take the imprudent risk of menacingly shadowing U.S. and Taiwanese naval ships. Instead, the PLA naval activity was moderate, a showy display of fire and smoke from guns and missiles, considerable

sound and fury but well short of titanic. *Beijing prudently played to its military strength and avoided making a big show of the areas where it remains uncertain, or even highly vulnerable.*

Put succinctly, Beijing does not wish to use its air or naval forces in combat against Taiwan because it is not ready to do so and is profoundly concerned about the outcome if compelled to do so. Beijing did not confront the U.S. aircraft carrier battle groups.¹² It is highly likely that the PLA Navy did not know precisely where either or both carriers were operating but did know that their air and naval forces could not approach these battle groups without being detected at distances well beyond the range of their combat systems. In other words, the U.S. Seventh Fleet had the upper hand and could have played cat and mouse with PLA Navy units, embarrassing them or making an international spectacle of PLA Navy inadequacies and ineptness. *None of this suggests that PRC air and naval forces should be relegated to impotence. What it does suggest is that the tactics employed in this tiff with Taiwan, and tangentially with the United States, illustrate that Beijing acted with calculated rationality, recognizing and taking into full account its military capabilities and deficiencies.*

The PLA Is Not Ready to Pick a Fight

Beijing and the PLA are not looking for a fight with Taipei and its armed forces. They wish to intimidate, to stop Taiwan's surge toward autonomy and independence, and, as a side effect, to complicate the growth of democracy on Taiwan and prevent its spread to mainland China. The missiles they fired were attempts to emphasize anew their conviction that Taiwan is an inalienable part of China. They used this dose of fear to terrorize the population and turn political fence-sitters to favor accommodation with Beijing. They tried to create profound concerns among the powerful business leaders of Taiwan that Beijing is capable of disrupting vital commerce and could escalate the crisis, destroying invaluable elements of the industrial infrastructure. These tactics, as employed in 1995 and 1996, had, in the minds of many, mixed results. However, those in Beijing who made the decisions to conduct this campaign are claiming success. They can assert that Lee Teng-hui is now more conciliatory, has curbed his "vacation diplomacy," and has no plans for a visit to the United States. The indepen-

dence-favoring Democratic Progressive Party (DPP) was shaken and divided by disappointing election results, and the Beijing-leaning New Party made gains. Taiwan and China are finding ways to talk and reach accommodation, especially in trade and investment areas; delegations are being exchanged. Surely, China had to suffer in some areas for its heavy-handed tactics, but, on balance, *Beijing used its military strength carefully and achieved its primary goals.*

And What of the Next Big Crisis?

This success, as it is viewed in Beijing, will encourage repetition and discussion. Let us look at plausible developments and what they imply for the tactics that might be employed in another China-Taiwan crisis.

PLA Missiles Will Fly Again

PLA officers threaten openly that in another crisis, defined as a declaration of independence by Taiwan, a collapse of internal order in Taiwan, or foreign interference in Taiwan's internal affairs, the reaction will be stronger than the last time. There will be conventional military and naval exercises, but primarily there will be much larger scale missile launches. PRC sources suggest nebulously but ominously that the safety of military ships and aircraft might not be guaranteed. Intervals between salvos may vary from days to just minutes, to increase the apprehension on Taiwan. The attempt will be, as before, to intimidate but this time also to terrorize at new heights. That ballistic missiles, the M-9 and possibly M-11 and DF-21 to increase the available numbers, would be used seems clear, but PLA Navy and coastal missile batteries could fire antiship and other cruise missiles that would menace Taiwan or shipping in the strait or harbor approaches. With the continued improvements in the PLA cruise missile arsenal, this supplementary use of cruise missiles would be an increasingly appealing option, at less cost per missile as well. When the PLA Navy has a submarine capable of submerged launches of cruise missiles, and the FB-7 naval attack aircraft is operational with its advanced air-launched antiship missiles, both may be used in a crisis to add startling elements to the rain of missiles. If seaborne or land-based theater missile defense systems are provided to Taiwan or deployed by the U.S. or Japan, the PLA will likely try to overwhelm those systems with large simultaneous salvos, includ-

ing launches of mobile missiles from unexpected locations.

As Taiwan's ability to counter ballistic and cruise missiles improves in the near-term, using land-based missile defense batteries and new frigates, Beijing will be faced with the dilemma of whether it is preferable to take a chance that the defenses might be embarrassingly capable or to use such launches as a way to learn something about the strengths and weaknesses of these new systems against their missiles, valuable intelligence in the event they are ever used in unrestricted combat. If Beijing is dissatisfied with the political effects of dense salvos of missiles into sea areas and harbor and airport approaches, the next step is to threaten or attack the government buildings housing senior leaders, as previously threatened. An additional step might be to imperil or destroy several important elements of the industrial infrastructure in an effort to have the leaders of industry and other segments of the population urge the government to accede to Beijing's wishes.

Submarines and a Blockade

Another escalatory step might be the employment of submarines as a primary force in establishing a blockade or quarantine, either partial or total, depending more on what the PLA Navy is able to sustain than any niceties of international law. There is some evidence that China has developed highly advanced mines that can be laid by submarine, mines that are difficult to detect and sweep. Beijing may feel that, at the outset of a crisis, before Washington has a chance to make a decision and get antisubmarine forces on scene, it could have its submarines plant mine fields with little risk of losses. The use by the PLA of submarines to sink ships using torpedoes raises the ante considerably, with the high risk that American, Japanese, and even South Korean antisubmarine forces might promptly be brought to bear given the intolerable nature of such actions by China.

Information Warfare

The PRC has become infatuated with the concept of information warfare. Much has been written in China about the importance of IW and how it is likely to be a major factor in future conflicts—although it appears that little has been done on the development of either concrete concepts or the design of equipment and software. China's IW experts view this new form of warfare as a way for China to jump ahead in tech-

nology and, through imagination, devise simple ways to disrupt the very complex and vulnerable systems on which modern warfare and more advanced civil societies function. It should be expected that the PRC is trying through every means available, including infiltrators, to learn how to disable Taiwan's military information and control systems and the civilian systems by which Taiwan conducts commercial and financial transactions domestically and internationally. The PLA Navy would find it highly desirable to use electronic means to foil Taiwan's antiship missiles, and air and missile defense systems, and thinks it can do so far more economically than developing weapons to counter those threats. Sophisticated disruption of banking transactions, disabling of commercial communication and computer networks, and pollution of data bases would be a tempting technique to attempt to get Taiwan's business elite to apply strong pressure on the government in Taipei to cave in to Beijing. Taiwan is far more vulnerable to sabotage of this form than is China, not only by virtue of the hugeness of China but also because China's systems are cruder, more rugged, and more redundant, thus less susceptible to insidious intrusion.

Using Tactics That Match the Goal

The PRC does not want to destroy Taiwan's infrastructure; it would prefer to have Taiwan's economy largely intact upon reunification, the only outcome Beijing deigns to contemplate. For many reasons, including profound uncertainty, it does not wish to use military force to invade or defeat Taiwan. Beijing is, however, using the PLA to deter Taipei from actions abhorrent to the PRC while it uses other means, including patience (along with many egregious methods), to bring about reunification on terms it can tolerate. A PLA Navy that suffers heavy losses or a severe defeat at the hands of Taiwan's Navy, with or without the help of other nations, cannot carry out that mission and would both set back and embarrass China and advance Taiwan's interests and confidence. *Beijing's tactics will be to capitalize on its strengths, avoid its weaknesses, and use imaginative means to ensure that Taipei is kept from choosing the path of greater autonomy and independence. Beijing can be counted on to be obnoxious, but is far less likely to be stupid.*

Notes

1. During 1990-92, while the author was the U.S. defense and naval attaché in Beijing, each time Taipei "stepped out of line," as seen by Beijing, PLA exercises were threatened or conducted in the areas facing or near Taiwan. The exercises, or intentional leaks hinting at them, were so frequent that the cooperative segment of the Beijing attaché corps informally divided up the tasks of traveling to the area to try to gauge the scale and nature of the operations or whether it was all bluster, as was sometimes the case. These exercises have become even more pointed in recent years. In 1993 and 1994, frequent exercises were held that were clearly intended to worry Taipei over PLA attention to the projection of force in ways that could be applied to Taiwan. PLA exercises in the spring of 1994 have been described by observers and analysts as having the invasion of Taiwan in mind, or even as a rehearsal of plans for such an operation. The East Sea Fleet and reinforcing units from other fleets have carried out exercises to menace Taiwan. These exercises have not convinced experienced observers that the PRC can mount a major successful operation against Taiwan, but they have served the intended purpose of keeping Taipei constantly aware of the "PLA factor" in every autonomous move it contemplates.
2. The U.S. Naval Institute's *Combat Fleets of the World 1995* and *Jane's Fighting Ships 1995-96* give useful descriptions of the PLA Navy's amphibious forces. There are less than 200 vessels which may be termed amphibious ships, ranging in size and capability from 7 rather modest troop transports (2,150 tons loaded) and 21 tank and 33 medium landing ships (3,110-1,650 tons) down to 130 utility landing craft (600 tons), all in widely varying states of modernity, modification, service, and repair. Only a handful of these are relatively modern, capable ships such as might be a part of the amphibious force of a Western navy. Various smaller landing craft (133-58 tons) number somewhat less than 400, including about four air-cushion vehicles.
3. Christopher D. Yung, *People's War at Sea: Chinese Naval Power in the Twenty-First Century* (CRM 95-214), Center for Naval Analyses (Alexandria, Virginia; March 1996), p. 13.
4. This concept was first heard from officers of Taiwan's forces. This may imply that Taiwanese intelligence considers this a serious option for the PLA and that Taipei has plans to counter this contingency. It also may imply that, having been reminded of the PLA's meager amphibious capability, active minds began to conjure up other scenarios—to serve other purposes.
5. Tables A and B were compiled by the author from many diverse unclassified sources and are an amalgamation of personally acquired data, Western

estimates, and information from Chinese sources. These and other such tables prepared by the author appear in similar form in *Asia-Pacific Issues and Developments*, published by National Security Planning Associates of Washington and Cambridge in May 1996. Because the PLA does not facilitate confirmation of this data, in some cases numbers, designations, and systems are uncertain. Nevertheless, the information usefully reflects the forces described.

6. A competent PLA Navy source said in August 1996 that the construction of the fourth and final ship of the Luh-class destroyers may be delayed. There is concern in this program, and for the Jiangwei-class frigates, that many ships built in rapid succession will not be able to incorporate the latest improvements and more modern and capable equipment that may become available, particularly from Russia.

7. The two Kilo submarines are reported by PLA Navy sources as being operational in the East Sea Fleet. The two additional Kilos with capabilities similar to the indigenous Russian version are to be delivered before the end of 1997.

8. The first of the Song or 039 type submarines is not yet operational. It has, according to Chinese sources, completed "hull testing" but remains under construction at Wuhan. A PLA Navy officer has suggested that success with the Kilos may mean discontinuation of the *Song* program.

9. Beijing and especially the PLA Navy and its commander were furious at the U.S. decision to send two carrier battle groups to the vicinity of Taiwan in March 1996. They have termed the action a "knife in the back that inflicted a deep wound" and claimed that it had no deterrent effect, doing nothing but harming bilateral relations. A less emotional appraisal leads to the conclusion that the presence of the carriers both infuriated and troubled the PLA Navy because it was effective, representing U.S. readiness to back up a policy of peaceful resolution, to act in defense of Taiwan if the PRC attacked, and a capability to force the PRC, if necessary, to back down or face grave consequences.

10. After this paper had been drafted, a relatively senior PLA Navy officer told the author that, although it is not government policy, many PLA Naval officers up to senior captains and rear admirals advocate attempting to damage or sink a U.S. Navy ship, regardless of the losses that may be taken, if carrier battle groups are sent "next time."

11. This opinion was so firmly held that before the ground phase in DESERT STORM the most senior Chinese military officers were forecasting that Iraq would prevail by holding on, inflicting large numbers of American casualties, and thereby bringing about an American accommodation short of Iraqi defeat.

12. Neither carrier battle group operated in the Taiwan Strait, avoiding unnecessary provocation and direct confrontation and also operating in the way they are most effective: on the high seas where they can maneuver and operate freely and have the advantage of reduced risk of detection and attack with little warning.

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Taiwan's View of Military Balance and the Challenge It Presents

by Alexander Chieh-cheng Huang

The winner is one who always makes sure of success before he challenges the enemy. The loser is one who always challenges the enemy before he makes sure of success. - Sun Tzu¹

Relative peace across the Taiwan Strait over the past 50 years has been maintained largely by two factors. First, Taiwan independence has not been aggressively pursued in Taiwan's politics, and second, China has not had the military ability to take Taiwan by force. However, despite the fact that both Taipei and Beijing have not withdrawn their pledge of peaceful unification, these two long-standing factors have begun to change in the past several years. While Taiwan's recent efforts in gaining international visibility have deepened Beijing's concern about the island's commitment to eventual unification, China's six large-scale military exercises near the Strait between July 1995 and March 1996 have also raised Taiwan's anxiety over Beijing's determination to use military force.²

For many years, Asia-Pacific defense planners have failed to publicly address a potential armed conflict between China and Taiwan. Recent tension in the Taiwan Strait has caused regional actors to re-focus their attention on the Beijing-Taipei rift. In this context, a discussion of Taiwan's security environment, its defense strategy and policy, and the challenges that Taiwan faces is needed.

Taiwan and China's Strategic Calculus

China's Security Environment

China's security environment has undergone significant change in the last decade. Improved relations with Russia have eased China's northern defense concerns creating an environment in which the Chinese Communist Party Central Military Commission could imple-

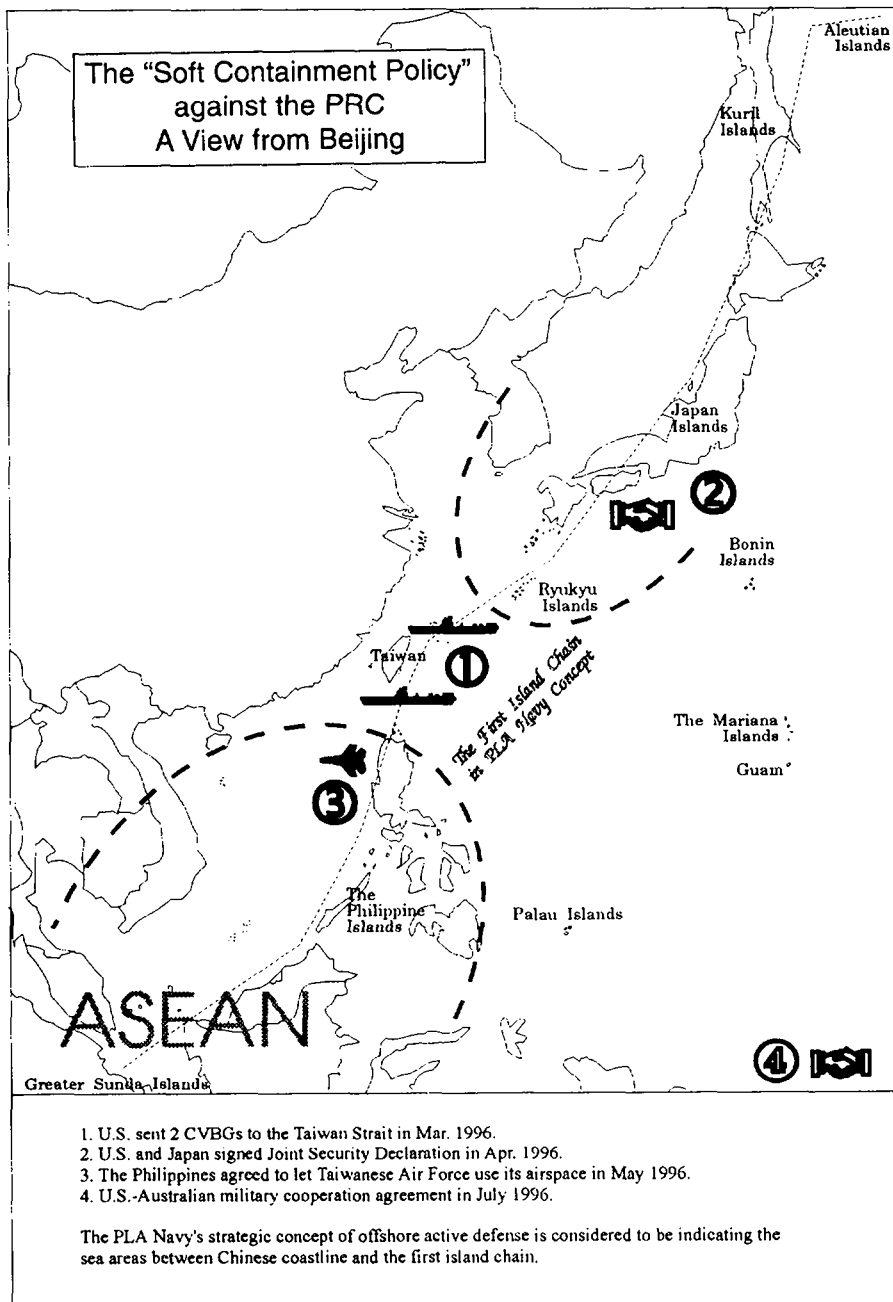
ment a "strategic transformation" of China's military doctrine and strategy.³ Mao Zedong's total war theory gave way to a focus on low intensity conflict or local wars outside China's land and maritime borders.⁴ China's strategic transformation, intertwined with economic opening to the outside world, has increased interaction between China and its maritime neighbors prompting two contradictory perspectives in the balance of power in the Asia-Pacific region.

From the perspective of its Asia-Pacific neighbors, China's rapid economic growth, increasing military budget, and growing ultra-nationalism creates an anxiety that has been gradually transformed into a "China threat theory." The Association of Southeast Asian Nations (ASEAN) especially fears that if China's fast pace economic development continues to generate its bluewater ambitions, they might be forced to make a choice between accepting China's hegemony in the region or forming a greater maritime collective security mechanism with the United States.

From China's perspective, its rapid economic development since the early 1980s is an outstanding opportunity to catch up economically, industrially, and militarily with the major industrialized powers. Therefore, its military modernization program is merely a means to phase out obsolete weapons systems and to develop the power status it deserves. In dealing with China's emergence as a regional power, the U.S. government has repeatedly emphasized that its policy toward Beijing is "comprehensive engagement" not "containment." However, policies such as continuing sales of advanced weapons systems to Taiwan and Asian allies, sending two aircraft carrier battle groups to the Taiwan area, strengthening security ties with Japan, assisting the Taiwan Air Force to secure an agreement with Manila to lease Subic Bay to Taiwan for the training of F-16 and Mirage fighters,⁵ and expanding military cooperation with Australia all have prompted Beijing's concern that the United States is formulating a plan for "soft containment" of China.⁶ (see Map 1)

Taiwan in China's Geopolitical Map

Taiwan's place in the strategic picture of the post-Cold War Asia is debatable. For the industrialized democracies and ASEAN, Taiwan may be viewed as the beachhead of market economies engaging in commerce



with the PRC, or it may be seen as an unsinkable aircraft carrier defending the regional interests in Asia-Pacific. Taiwan may also be considered strategically irrelevant as long as an equilibrium can be found among Japan, China, Russia, and the United States. However, for Chinese defense planners, Taiwan possesses great strategic value to China's national security.

- *Taiwan is the key to China's maritime defense.* About 100 nautical miles off the Chinese southeast coast, if under China's control, Taiwan could serve as an early warning device and the first layer of defense giving China considerable extended depth of defense.
- *Taiwan is China's gateway to the high seas.* Situated at the southern tip of the U.S.-Korea-Japan security alliance which encircles the Yellow Sea and the East China Sea, and at the northern tip of ASEAN which makes the South China Sea an inland lake, Taiwan could be a strategic penetration point along the "first island chain" where the PLA Navy could "comfortably" sail into the vast Pacific Ocean.
- *Taiwan is a choke point of Asia-Pacific sea lanes of communications.* Strategically located at the mid-point of the Asia-Pacific shipping routes between Shanghai and Hong Kong, between Okinawa and Manila, between Yokosuka and Cam Ranh Bay, and between the Sea of Okhotsk and the Strait of Malacca, Taiwan could monitor or control the passage of significant Asia-Pacific commercial and strategic shipping. Accordingly, whether or not Taiwan is hostile to China would be of crucial importance in PLA strategic planning.

Taiwan's Defense Policy

In 1991, President Lee Teng-hui terminated the "period of mobilization against communist rebellion" marking an end to Taipei's stated aim of retaking the mainland by force.⁷ This move, though with marginal meaning in military terms, did indicate a fundamental shift in Taiwan's policy toward the PRC. Under the new political objective of peaceful

coexistence and negotiated unification, strategic thinking in defense policy has been transformed from “offensive-defensive as one” (*gong shou yi ti*) to “defensive defense” (*shoushi fangyu*) which rules out provocative or preemptive military actions against the mainland.⁸ This “purely defensive” guideline defines Taiwan’s defense policy.

Threat Perceptions

Taipei’s *Defense White Paper* envisions that Taiwan’s national security threat comes from three categories: 1) China’s use of force against Taiwan and the offshore islands it controls, 2) territorial split, and 3) regional conflict. Among them, a potential military assault by the PRC posits the most direct and serious threat to Taiwan’s security.⁹ Given China’s strong military establishment, it has dozens of ways to threaten Taiwan from sporadic intimidation to a full-scale attack. In Taipei’s calculation, China’s most possible military actions against Taiwan are summarized as follows:¹⁰

- Deploying combat aircraft to the bases along China’s southeast coast with the aim of affecting social stability, industrial production, and undermining the morale of Taiwan people.
- Dispatching PLA aircraft and warships to penetrate the conceptual middle line of the Taiwan Strait under the cover of conducting military exercises.
- Instigating fishing disputes in the Taiwan Strait and deploying naval vessels to the dispute area in the name of protecting fishing boats.
- Disturbing Taiwan’s regular supply to the offshore islands or raiding Taiwan Navy supply ships.
- Exercising quarantine over commercial oceanliners sailing to and from Taiwan ports by warships or armed fishing boats.
- Firing intermediate range ballistic missiles a) into the coastal waters of Taiwan, b) over Taiwan air space, c) into the uninhabited areas of Taiwan, d) into the populated areas on the west coast of Taiwan to cause psychological shock among Taiwan people.
- Encircling and intimidating the Taiwan-controlled offshore islands with fishing boats or armed fishing boats.¹¹

- Attacking and occupying the Taiwan-controlled offshore islands, such as the Pratas, Wuchiou, Matsu and Quemoy.
- Blockading the Taiwan-controlled offshore islands.
- Mining Taiwan's ports.
- Exercising a blockade, partial or total, against Taiwan proper.
- Launching large-scale regular as well as irregular assault against the island of Taiwan.

China's overwhelming military advantages over Taiwan enable Beijing to enjoy great freedom of choice in the timing, magnitude, and location of their military actions. Taiwan defense planners would have to keep in mind that one military scenario does not necessarily exclude others. The PRC has considerable capability to simultaneously initiate different forms of attack against Taiwan, as demonstrated in the three major exercises in the spring of 1996.

During the height of the PRC's military exercises earlier this year, President Lee Teng-hui mentioned that he had 18 plans (*shibatao xiben*) to deal with possible military scenarios. Taiwan media reports indicated that Lee was referring to the 18 scenarios laid out in the "Taiwan-Penghu-Quemoy-Matsu Defense Operation Plan" (*tai-peng-jin-ma fangwei zuozhan jihua*) or "Operation Fortified Defense" (*gu'an jihua*). Given the confidentiality of the plan, outsiders would be hard pressed to learn how Taiwan would react to a military threat from the Mainland. An examination of Taiwan's defense policy may provide some clues.

Defense Policy

For Taiwan's defense planners, the primary military objective is to repel the PLA invasion forces and to maximize the survivability and sustainability of its own. Accordingly, Taiwan's defense policy is guided by two strategic concepts: "resolute defense" (*fangwei gushou*) and "effective deterrence" (*youxiao hezu*).¹² The former is considered a political statement which emphasizes the determination of the Taiwan military forces to defend the areas it controls, including the offshore islands, without giving up an inch of its territory. The latter serves as the center of gravity of Taiwan's defense planning that focuses on building a "hard-

to-be-swallowed" military establishment to deter a possible Chinese invasion. The British Navy defines deterrence as:

[that which] is achieved when an opponent calculates that the potential costs of pursuing a particular course of action will outweigh the expected advantages to be gained. An opponent can be deterred through an assessment that:

- damage might be sustained to his military forces or to other valued resources from conventional or nuclear weapons (punishment);
- aggression will not succeed (denial).¹³

Based on this conceptualization of deterrence, two difficult questions have to be asked:

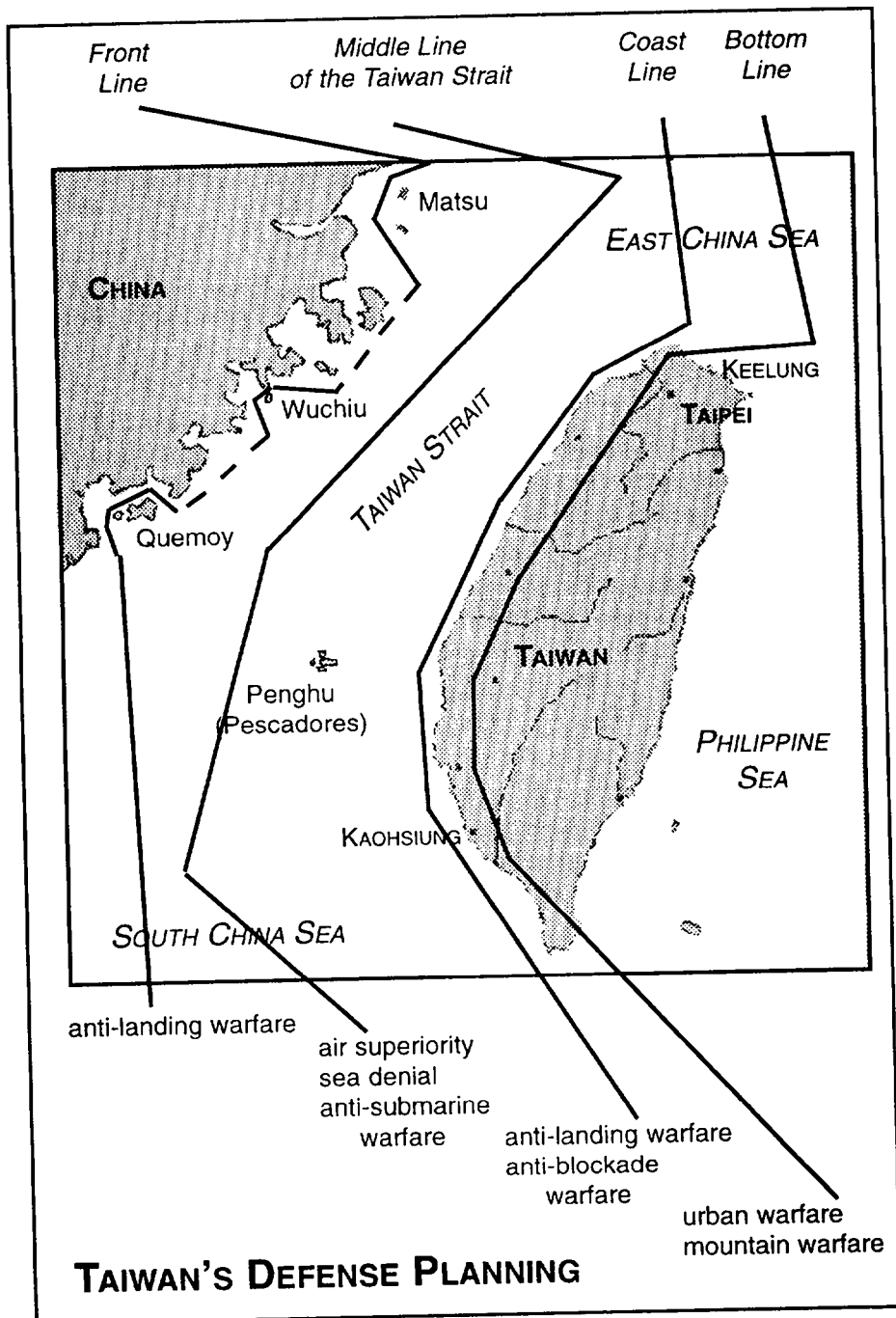
- Does Taiwan have the credibility and capability to punish China so as to deter a possible PLA assault?
- Does Taiwan have the military capacity to deny a PLA invasion?

Unfortunately, answers to these two questions are both yes and no. Both answers are yes, because people may argue that Taiwan's well-equipped, better-trained armed forces can cause significant damage to PLA invasion forces. Both answers are no, for two reasons. First, Taiwan's self-imposed defensive doctrine rules out preemptive attacks or retaliatory offensives against targets on the mainland, confining Taiwan's military options should Taiwan decide to deter or punish China. Second, given the large difference in sizes between the two armed forces, it is unclear how long Taiwan's forces can sustain a protracted armed conflict without external, diplomatic and/or military assistance. Whether Taiwan can deter Chinese invasion is a question which can only be examined in a relative context. Consequently, to defend its national security from a relative weak position, Taiwan has to raise the threshold of deterrence and make a Chinese military assault as difficult as possible.

Defense-in-Depth (see Map 2)

Taiwan's efforts to improve military deterrence can be put into two categories. The first deals with an increase in the depth of defense. The second deals with priorities in defensive operations. With merely 100 nautical miles separating it from the mainland, and the long, narrow characteristics of the island, Taiwan cannot count on military deterrence by decisive land battles on the island. Therefore, Taipei's defense planners developed a four-layer defense-in-depth strategic concept.

- *Front Line.* In the history of the Beijing-Taipei military stand-off, offshore islands such as Quemoy and Matsu have served as the tripwire of armed conflict and the front line of Taiwan's defense shield. The defense buffer role of these heavily fortified offshore islands have somewhat diminished due to the increase of PLA's capability to project forces directly against Taiwan. Nevertheless, these offshore islands, equipped with land-based surface-to-surface missiles and heavy artillery can still complicate the PLA operations across the Strait.
- *Middle Line of the Taiwan Strait.* For more than 40 years, a conceptual middle line of the Taiwan Strait has served in practice to maintain a cold peace between China and Taiwan. Although, in the third of a series of military maneuvers which took place between March 18-25, 1996, the PLA might have tried to push the envelop by choosing an exercise area large enough to approach the middle line, they did not violate this "boundary." The Taiwan Air Force and Navy are instructed to defend this psychological line from encroachments by PLA forces.
- *Coast Line.* Should PLA forces be able to obtain air and sea superiority and pass the middle line of the Taiwan Strait, the battlelines would then be drawn further eastward to the coast line of the island of Taiwan. In this phase of conflict, Taipei would employ all possible military means, regular army and reserves, conventional and unconventional weapons systems, to prevent an invasion of the island of Taiwan.
- *Bottom Line.* In the concept of military operations, the island of Taiwan does not have enough depth of defense. Given the long and narrow plains along its west coast, the invading forces could easily



penetrate the central mountains and divide Taiwan's defense forces into several battle areas. If Taiwan forces are unable to resolutely defend the Chongshan Highway, there is a significant possibility that Taiwan would fall.

Priorities in Defense Operations

In connection with the defense-in-depth strategic concept, Taiwan prioritizes its defense operations as air superiority (*zhikong*), sea denial (*zhihai*), and anti-landing warfare (*fandenglü*)¹⁴ This air-sea-land doctrine directs not only Taiwan's military construction but also its defense procurement programs.

- *Air Superiority.* Since the Taiwan Strait crises in the 1950s, the Taiwan Air Force has been able to maintain air superiority over the PLA Air Force. To ensure such advantage, in recent years, Taiwan has invested large amounts of resources in upgrading combat aircraft and strengthening reconnaissance and early warning systems, including the purchase of 150 F-16s, 60 Mirage 2000V fighters and four E-2T Hawkeye II early warning/command and control aircraft. If the Taiwan Air Force can successfully deny China's air assault and control its airspace, it is almost certain that the PLA cannot launch an amphibious attack against Taiwan. Therefore, Taiwan continues in its efforts to acquire advanced medium-range air-to-air missiles in order to be able to maintain its leverage in the air.
- *Sea Denial (Anti-blockade).* In order to deal with China's large numbers of submarines and newly developed major surface combatants, Taiwan's naval modernization programs have been concentrated on improvement in ship-board electronic and combat systems, ship-to-ship missiles, and anti-submarine warfare capabilities. Given that Taiwan's economy is highly dependent on maritime trade, its navy must be capable of countering a naval blockade and of keeping Taiwan's sea lanes open. The Taiwan Navy's ASW and mine warfare capabilities have been considerably upgraded since the introduction of Knox-class and Cheng Kung-class frigates, Aggressive-class and MWW-50-class mine hunters. Nevertheless, admirals in Taipei believe that advanced submarines serve as the best platform for anti-submarine warfare and strategic deterrence.

- *Anti-landing Warfare.* Even though China possesses very limited sea-lift capability, Taiwan is prepared to roll back China's amphibious assault. The best scenario is to project firepower and destroy the invasion force about 8-30 nautical miles from the Taiwan's western shore. Forces involved in anti-landing warfare are in three categories: 1) heavy artillery and land-based missiles, such as Hsiung Feng anti-ship missiles and Stinger surface-to-air missiles; 2) army helicopters, such as AH-1W Cobra and OH-58D Kiowa; 3) main battle tanks, such as M-48H and M60A3.

All these operations have been developed to prevent an invasion force from landing on Taiwan shores.

New Directions

It is reported that, based on Taiwan's "10-year force construction program" (*guojun shinian bingli mubiao guihua*), the Ministry of National Defense is contemplating the introduction of a new defense concept: "independent operations in defense zones and operations zones" (*fanggu ji zhanqu duli zuozhan*). The new plan aims at dividing Taiwan's armed forces, including Navy and Air Force, into two defense zones (Quemoy and Matsu) and four operations zones (Northern, Central, Southern, and Eastern Taiwan). Each zone is required to independently conduct air-sea-land joint operations.¹⁵ Moreover, in coping with China's establishment of rapid reaction units and improvement in airborne operations capabilities, Taiwan is reported to have established three independent airborne special operations brigades (*duli hangkong tezhanlyu*) by combining and reorganizing its Special Force Command and helicopter forces. The three brigades are said to be integrated into the 6th, 8th and 10th Armies under the concept of independent operations of operations zones.¹⁶ These new arrangements, although not officially announced, further explain Taiwan's strategic concept of resolute defense.

Major Challenges

To maintain the military balance across the Strait, Taiwan has focused its efforts in upgrading its weapons systems and in developing a defense-in-depth strategy to raise the threshold of deterrence. However, tremendous challenges to Taiwan's defense establishment still exist. The following are some of the fundamental and most critical difficulties Taiwan faces today.

Military Procurement

Acquiring advanced weapons systems to counter military threats from the mainland has been one of the first priorities in Taiwan's defense construction. Theoretically, military procurement programs should be directed by a nation's overall strategic planning and operations requirement. Unfortunately, Taiwan's armed forces does not have such luxury.

- *China-led Sanctions.* Viewing Taiwan as an renegade province, China defines any military sales to Taiwan a challenge to China's sovereignty and territorial integrity and threatens to sever diplomatic relations with foreign countries that decide to sell arms to Taiwan. Consequently, Taiwan confronts enormous difficulties in locating and purchasing weapons systems *based on its own defense planning*. Military operations plans have been constantly altered due to the gap between the desired systems and the systems Taiwan can actually get. This heavy-handed Chinese management of international arms sales to Taiwan has often created the unique conditions of "*procurement directing planning*" in Taiwan, complicating the island's military strategy.
- *Different Perceptions.* Taiwan's huge foreign exchange reserve has not been able to make international arms sales totally a buyer's market. Apart from China's objection of arms sales to Taiwan, getting foreign governments to share Taiwan's perceptions of a threat is another critical problem for Taiwan. Convincing foreign countries that their national security interests would be served by approving arms sales to Taiwan is a critical task.

Logistical Adjustment

Given the difference in the size of the military between Taiwan and China, how Taiwan maintains a sufficient edge both in hardware and in the quality of its officer corps is the key to Taiwan's deterrence strategy. In order to match China's improved military capability under its defense modernization program, Taiwan has increased its defense procurement and acquired a considerable amount of advanced weapons systems. However, receiving many new weapons systems in a short period of time has put tremendous pressure on Taiwan's defense establishment. Two

major structural problems can be identified:

- *Manpower.* In terms of education levels, Taiwan's are among the best military forces in the world. More than 82% of drafted soldiers have received high school diplomas or higher education.¹⁷ However, reduction of conscription service terms from three years to two years in the Navy and Air Force has become a problem for the operation of newly acquired warships and combat aircraft. Draftees could leave the service before becoming skilled soldiers and sailors, capable of mastering sophisticated and hi-tech weapons systems. Although proposals for changing military service from conscription to voluntary service have been frequently discussed, the Ministry of National Defense is still unwilling to make such changes due to financial and political considerations.
- *Logistics Systems Integration.* Taiwan's second generation weapons systems requires new logistical support systems. The Taiwan military faces two challenges: 1) formulating a support structure to keep up with the sudden increase of new logistical requirements, and 2) managing to operate two different logistics systems, for new weapons systems and old, simultaneously. The Air Force, for example, has to build and manage logistics systems for four different aircraft: American-made F-16s, French-made Mirage 2000s, indigenous IDFs, and existing F-5s. If an integrated or workable logistics system cannot be developed, the effectiveness of Taiwan's Air Force upgrade program will be much less meaningful.

Low-intensity But Constant Intimidation

The PLA's increase in combined arms training and exercises have led analysts to focus on possible scenarios of conventional naval warfare in the Taiwan Strait. However, the possibility of a Chinese "political offensive" against Taiwan prompted by the resurrection of Mao Zedong's doctrine of "guerrilla warfare" and fighting a "people's war" in the Taiwan Strait cannot be dismissed. The PLA can wage a war of nerves which periodically intimidates Taiwan's defense systems and agitates its social and economic order. Therefore, acquiring advanced weapons systems may not completely relieve Taiwan's security concerns. China, with its geographic advantages and irregular warfare capabilities, has numerous options to exert low-intensity military pressure on Taiwan

which can make Taiwan's defense modernization program irrelevant.

- *Offshore Islands.* Most of the Taiwan-controlled offshore islands are located near the coast of the mainland. To the larger, well-fortified islands such as Quemoy and Matsu, China can employ maritime militia to disrupt the routine commercial shipping and military logistics supply to those two islands. More challenging scenarios are that China can simply blockade and starve defending troops on other smaller islands such as Dongsha (manned by only two marine companies) or Wuchiou (defended by one strengthened marine battalion).
- *Fishing Disputes.* For Taiwan's defense planners, the most difficult day-to-day challenge is China's armed fishing fleet. China can mobilize hundreds of fishing boats, loaded with naval militia, to provoke a conflict with Taiwan's fishing boats in order to force Taiwan into a difficult choice of either sending naval combatants to the disputed area or facing unbearable political costs domestically.
- *Intimidation without Escalation.* China can employ regular or irregular forces to periodically push the limits of Taiwan defense by approaching the middle line of the Strait or the 12-nautical mile line of territorial waters. China can send its combat aircraft in different numbers and formations to the middle line of the Taiwan Strait and then return to the mainland. Chinese maritime militia can interdict Taiwan-flagged commercial shipping in the sea areas next to Taiwan's line of territorial waters. These "touch and run" tactics will keep Taiwan armed forces constantly running from one trouble spot to another without a real engagement. In these cases, China can actually neutralize Taiwan's superior naval and air forces even without employing its regular PLA forces.

Strategic Dilemma

Can Taiwan maintain a real military balance without external assistance? Obviously, the answer is no. Can Taiwan count on foreign powers to come to its aid if and when China wages war against Taiwan? The answer is unclear. In a close examination of Taiwan's defense policy, one can find that Taiwan makes its defense plans based on a calcula-

tion that no foreign country will come to Taiwan's rescue. This difficult reality spells out Taiwan's biggest challenge when facing China's military adventurism.

- *Strategic Isolation.* Because of China's diplomatic blockade, only 30 countries in the world extend diplomatic recognition to Taiwan, none of which are in the Asia-Pacific region. Taiwan is excluded from the United Nations and all of the regional security dialogues such as the Council for Security Cooperation in Asia-Pacific and the ASEAN Regional Forum. Taiwan does not have a mutual defense treaty with the United States nor with any of the U.S. allies in the region. This strategic isolation makes Taiwan uncertain about its foreign military procurement program and possible international reactions to an armed conflict across the Taiwan Strait.
- *Strategic Positioning.* An isolated Taiwan would find itself in a more difficult situation when conflict occurs between China and other regional powers. The dilemma for Taiwan is that Taiwan cannot afford to offend China nor other regional powers. Taiwan seems to be faced with a choice of two fundamental questions. Should Taiwan join China and claim sovereignty over the entire Spratly Archipelago? Or should Taiwan pursue and develop a theater missile defense alliance with Japan, Korea and the United States? No defense official in Taipei wants to answer these questions. For Taiwan's survival, policy decisions may not be a choice between beauty and the beast but between long-term goals and short-term interests. How to avoid a direct confrontation with China while soliciting support from foreign powers is probably the most difficult challenge.

Beyond the Military Scope

In view of the challenges that Taiwan faces, it is likely that the solutions to these problems are beyond the scope of military measures. In fact, military confrontations would only hurt both China's and Taiwan's economic development, and extensive military modernization programs on both sides of the Taiwan Strait would only lure other Asian-Pacific nations into an unlimited arms race. Therefore, avoiding military options in strategic thinking is of vital importance in managing relations between Beijing and Taipei. The only current source of military conflict in the

Taiwan Strait comes from Beijing's insistence on keeping military options open. China set two conditions for using military force against Taiwan: 1) if and when Taiwan declares independence, 2) if and when foreign powers intervene in the cross-Strait affairs.¹⁸ These two conditions lead to two interlocking issues: the one-China principle and the internationalization of the Taiwan issue. If Taiwan, China and regional powers cannot find a way out of the China-made psychological cocoon, conflict in the Asia-Pacific region will probably continue.

Rethinking the "One-China Principle" (see Diagram)

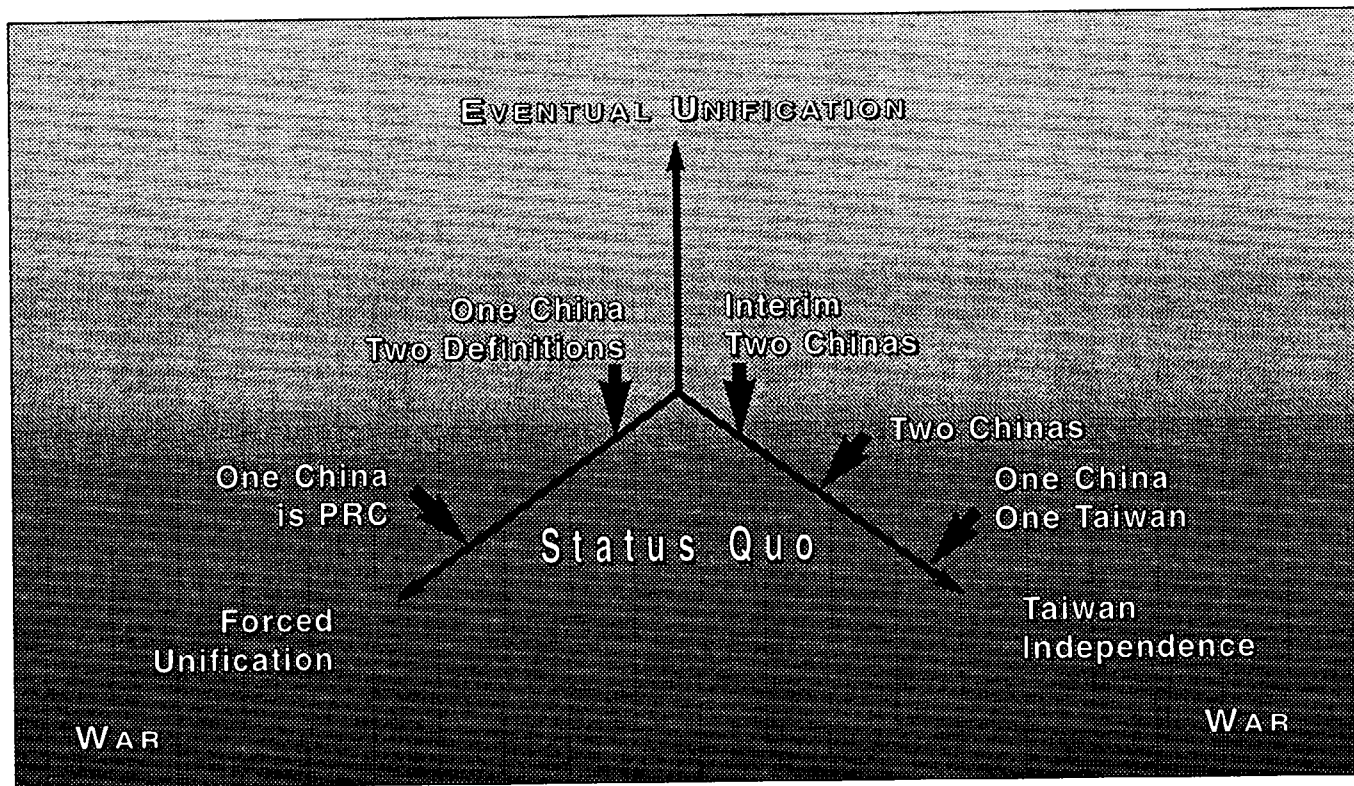
Beijing has imposed on Taiwan the "one-China principle" as a guideline for conducting cross-Strait affairs, claiming Taiwan is part of China. Taiwan does not dispute the notion of one China, but insists that currently, there are two equal political entities exercising jurisdiction over two non-overlapped Chinese territories. Summarizing official statements on the "one China" paradox by both Beijing and Taipei, five options of cross-Strait relations can be identified:

- a) *One China is PRC* = one country, two systems = forced unification;
- b) *One China, two definitions* = one China, two governments;¹⁹
- c) *Two interim Chinas* = one in Beijing, one in Taipei aiming at eventual unification;²⁰
- d) *Two Chinas* = one in Beijing, one in Taipei without spelling out a unification;
- e) *One China, one Taiwan* = Taiwan independence.

Among these options, Taiwan does not accept a forced unification under the principle of "one country, two systems." China, on the other hand, has repeatedly emphasized that it does not accept "Taiwan independence, two Chinas, or one China, one Taiwan." Consequently, items a, d, and e are not feasible options in projecting the future of Beijing-Taipei relations. Item b and c are in fact a reflection of current reality and can be regarded as the *status quo*. If maintaining the *status quo* and preventing military conflict are desired goals of all Asia-Pacific countries; regional powers, including China, would probably need to gradually recognize the reality of "one China, two governments" and therefore create a new path for Beijing and Taipei to develop healthier relations.

Whither One China? Whither War?

Paradoxical Relationship across the Taiwan Strait



Internationalization of the "Taiwan Issue"

China may not accept the reality that there are two legitimate governments in what is considered traditional Chinese territory unless forced to do so. Taiwan itself does not have the resources and capabilities to formulate a credible deterrence against a Chinese military threat unless it secures external assistance, diplomatic and military. The internationalization of the Taiwan issue (*Taiwan wenti guoji-hua*) has been viewed as a taboo in China which is hyper-sensitive to foreign intervention of its "internal" affairs. Indeed, any issue between Beijing and Taipei is, in principle, an internal affair of the Chinese people. However, given Taiwan's strategic location, armed conflict between China and Taiwan would definitely have regional consequences. Any military conflict in the Taiwan Strait affecting the freedom of navigation or the sea lanes of communications is a regional security issue, not a matter of internal Chinese affairs. Moreover, it is unlikely that foreign countries or a regional security forum could resolve or manage a military conflict in the Taiwan Strait without involving Taiwan. To reduce the possibility of a crisis in the region resulting from conflict in the Taiwan Strait, it seems necessary for Asia-Pacific countries to reconsider the current practice of excluding Taiwan from participation in regional security dialogues.

Conclusion

The rise of China as a regional military power, based on its continued economic success and its soaring nationalistic self-confidence, could eventually alter the current Asia-Pacific power equilibrium. The PLA's assertive actions in the Taiwan Strait in recent years have indeed provided an opportunity for the Asia-Pacific countries to reexamine Taiwan's status in regional security. Because the United States and its allies do not have a policy of containment toward China, Taiwan may believe that it has no strategic value to the United States and its allies either in the enlargement of market democracies and or in the defense of Asia-Pacific sea lines. To China, however, Taiwan is becoming an important part of its strategic defense and bluewater ambitions. The gap in perception between China and the rest of Asia-Pacific countries regarding Taiwan, especially during a time of

power competitions in the post-Cold War Asia, may be a source of great crisis. Taiwan, sitting between two giants, faces an uncertain future.

Notes

1. Shun-te Lo, ed., *Sun Tzu Bingfa* [*Sun Tzu on the Art of War*], in Chinese with English translation, (Taipei: Li Ming Cultural Enterprise Co. Ltd., 1991), p. 81.
2. The PLA has launched six major military exercises aiming at Taiwan since summer 1995. They were 1) missile test in July 1995, 2) live ammunition exercise in August 1995, 3) amphibious landing exercise in November 1995, 4) missile-firing exercise, 5) live ammunition exercise, and 6) joint amphibious landing exercise all in March 1996.
3. It is interesting to acknowledge the coincidence that Gorbachev assumed the position as General Secretary of the CPSU three months before China's Enlarge Meeting of the Central Military Commission in which the PLA force reduction and Military Region realignment decisions were made. Although one might not draw a linear relationship between these two events, Gorbachev's later peaceful posture toward the Far East did have a direct linkage with China's change of strategic perceptions.
4. The disintegration of the Soviet Union further enabled China to redirect its defense priorities from "three norths" to "four seas" (*sanbei zhuan sihai*), which means the strategic frontier has been shifted from the north, the northeast, the northwest to the Bo Hai, the Yellow Sea, the East China Sea and the South China Sea.
5. "Taiwan: Air Force to Lease Subic Bay Base for Training," *FBIS-CHI-96-094*, retracted from World News Service through internet.
6. Ben Barber, "Australia Rises as Key U.S. Ally near Asia: A New Military Pact Lets Washington Project Balancing Power as a Chinese Threat Builds," *Washington Times*, August 11, 1996, pp. A1, A7.
7. Ministry of National Defense, *Bashiwunian Guofang Baogao Shu*, [1996 *National Defense Report*], in Chinese, (Taipei: Li Ming Cultural Enterprise Co. Ltd., 1996), pp. 56-57.
8. Ministry of National Defense, *1993-1994 National Defense Report*, (Taipei: Li Ming Cultural Enterprise Co. Ltd., 1994), p. 101.
9. Ministry of National Defense, *Bashiwunian Guofang Baogao Shu*, [1996 *National Defense Report*]. In terms of "territorial split," the Report does not spell out whether the Ministry of National Defense concerns a declaration of Taiwan independence as territorial split, or a failure to maintain its sovereignty claim over the Spratlys and the Diaoyutais. The latter can be considered as a sovereignty issue. However, in the former case, one may speculate that Taiwan's military makes a strong statement of opposing Taiwan independence.

10. Ministry of National Defense, *1993-1994 National Defense Report*, pp. 88-89; Ming-hui Chiu, "Disclose the Nine Scenarios of PRC Military Invasion of Taiwan," *Hsin Hsin Wen*, [The Journalist], in Chinese, No.470, (Taipei: Hsin Hsin Wen Publishers), March 10-16, 1996, pp. 17-20; Mark Farmer, "Fire of the Dragon: China's Missiles Are Its New Force of Arms," *Popular Science*, August 1996, p. 81.
11. PRC's armed fishing boat is also called fishing affairs boats (*yu zheng chuan*). These vessels are operated by either local government's civil defense unit or by maritime militia.
12. Ministry of National Defense, *Bashiwunian Guofang Baogao Shu*, [1996 *National Defense Report*], p. 62.
13. Command of the Defense Council, *The Fundamentals of British Maritime Doctrine*, (London: HMSO, 1995), p. 38.
14. Ministry of National Defense, *Bashiwunian Guofang Baogao Shu*, [1996 *National Defense Report*], p. 62. Taiwan defense planners consider air superiority and sea denial as priority, anti-blockade as major defense operations, and battle along Taiwan's western coastal areas as the key to a decisive outcome of war.
15. *Shijie Ribao*, [World Journal], August 2, 1996, p. A6.
16. *Ibid.*, August 9, 1996, p. A9.
17. Ministry of National Defense, *Bashiwunian Guofang Baogao Shu*, [1996 *National Defense Report*], pp. 75-76.
18. Ministry of National Defense, *1993-1994 National Defense Report*, pp. 86-87. Taipei summarizes statements made by Chinese leaders regarding the conditions that the PRC would employ military force against Taiwan. They are:
 1. if and when Taiwan declares independence;
 2. if and when internal upheaval occurs in Taiwan;
 3. if and when Taiwan's armed forces becomes relatively weak;
 4. if and when foreign powers intervenes in the cross-Straits affairs;
 5. if Taiwan refuses to engage in unification talks; and
 6. if and when Taiwan develops nuclear capability.

It is worthy to note that, recently, the PRC seemed have lowered its threshold and emphasized "Taiwan independence" and "foreign intervention" as the two most "unacceptable" conditions.

19. In order to avoid disagreement in the definition of "one China" and to proceed negotiation on technical issues, in a meeting in Hong Kong October 1992, Taipei's Strait Exchange Foundation (SEF) and Beijing's Association of Relations Across the Taiwan Strait (ARATS) reached a verbal agreement that both sides would tolerate different definitions of "one China." (*yige zhongguo, gezi*

biaoshu) Later on November 16, 1992, the ARATS deliver a letter to the SEF officially confirmed the Hong Kong agreement.

20. When answering a question about “one China” in a Seattle APEC press conference on November 21, 1993, Taiwan’s Economic Minister P.K. Chiang stated that Taipei pursues an “interim two Chinas policy aiming at one unified China.” (*yi yige zhongguo wei zhixiang de jieduanxing liangge zhongguo zhengce*)

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The views expressed here are the author's own and do not represent the positions of the KIDA, the Mershon Center or any organizations with which the author is affiliated.

Korean Views on Taiwan-PRC Relations and the Japan Factor

by Taeho Kim

When locked in ideological competition, as China and Taiwan have been, divided political entities are prone to have extremely strong desires for unification. They may be inclined to take radical, confrontational approaches to achieving unification. To improve the status of their personal authority and to increase the legitimacy of their regime, their leaders often use the emotional issue of national unity in conducting domestic and foreign policy. Intense ideological competition and elite power struggles result in a military tension that leaves little room for developing economic and social ties with each other.

"Liberating Taiwan," for instance, remained high on Mao Zedong's political agenda, so did "recovering the mainland" on Chiang Kai-shek's. Similarly, North Korea's Kim Il Sung, and his counterparts in the South, were preoccupied with unbridled competition and antagonism. Only after the passing of the revolutionary leaders and the onset of pragmatic leadership, did non-political ties begin to develop as has occurred in cross-strait exchanges since the late 1980s and in the high-level inter-Korean talks in the early 1990s.¹

However, China and Korea remain divided nations ridden with tensions and uncertainties. The 1995-1996 PRC military exercises near Taiwan, and North Korea's nuclear gambit, have highlighted the critical importance of the divisions of China and Korea for Asian stability. Furthermore, with the passing of China's Deng Xiaoping (February 1997) and North Korea's Kim Il Sung (July 1994) both states have entered a period of sustained uncertainty, with various but important implications for regional stability.

As the Asia-Pacific nations search for a new regional strategic order, they share a perception that the region's stability and prosperity will increasingly hinge on the future capability and behavior of China—potentially the most influential nation in the region. Cross-strait rela-

tions, in short, will have an important bearing on China's bilateral relations with the United States, the remaining superpower; and with Japan, a potential rival, in this fast-moving, uncharted Asia-Pacific security environment.

The Dynamics of Taiwan-PRC Relations

One of the most fundamental paradoxes in cross-strait relations has been their growing economic and social interactions, even if mainland China continues to be Taiwan's foremost threat to its security and international status. Beginning in the mid-1980s and continuing in the 1990s, Taiwan businessmen have responded to the changing economic realities between Taiwan and the mainland to such an extent that by the mid-1990s mainland China had become Taiwan's second largest export market only after the United States, the single most important source of trade surplus, and the top recipient of Taiwan's outbound capital flow.²

According to Taiwan's official statistics,³ Taiwan's trade with the mainland in 1995 totaled US\$22.5 billion and its export to the mainland accounted for 17.5 percent of its total exports. In the same year, Taiwan's overall trade surplus was US\$8.1 billion, whereas its trade surplus with the mainland stood at US\$16.3 billion. By the end of 1995, more than 30,000 Taiwan-invested firms on the mainland had a cumulative investment of approximately US\$30 billion. Their deepening economic and social ties are further evidenced by more than 8 million visits from Taiwan to the mainland in the period 1987-1995.⁴

The expansive nature of their economic and social ties is quite remarkable in light of the heightened cross-strait tensions in 1995, in the wake of President Lee Teng-hui's unofficial visit to the United States. They included the suspension of semi-official talks (June), missile tests (July and August), and military exercises (August and November). As if to back up its determination to curb what it sees as Taiwan's move toward independence, Beijing continuously stepped up military pressure on the eve of Taiwan's first-ever direct presidential election on March 23, 1996.

Mainland China's unprecedented three consecutive military exercises near Taiwan in March 1996—missile tests (March 8-15), naval and

aerial exercises (March 12-20) and landing exercises (March 18-25)—invited an equally surprising military response from the United States, the dispatch of two carrier battle groups to the East China Sea. At the least, the cross-strait crises provided a grim reminder to those who had doubts about the pertinacity of the territorial and sovereignty issues and about the United States' critical balancing role in the post-Cold War Asia-Pacific region.

The rapid unfolding of the above events, manifested in an action-reaction, or “overaction-overreaction” pattern, was caused by a variety of factors. They include the so-called “economic convergence and political divergence” in cross-strait relations, the leadership transition in mainland China, Taiwan’s democratization, frosty Sino-U.S. relations, and the challenges and opportunities created by the end of the Cold War. While it is conceivable that all or most of these variables have influenced the events in a complex and interactive manner, they can be grouped into three major perspectives: Taiwan’s democratization and indigenization; mainland China’s politics of leadership succession; and Taiwan-mainland China rivalry in the international arena.

Taiwan’s Democratization and Indigenization

Most analysts agree that the ongoing process of Taiwan’s democratization has had a direct bearing on the cross-strait dynamics.⁵ Since the last years of Chiang Ching-kuo, the mainlander-dominated KMT leadership has allowed Taiwan businessmen to conduct indirect trade with the mainland; tolerated the formation of the opposition Democratic Progressive Party (DPP); and lifted martial law and a ban on travel to the mainland. The process of Taiwan’s democratization and/or Taiwanization, however, began in earnest in the first four years of Lee Teng-hui’s presidency, 1988-1992.

First and foremost, President Lee, a native Taiwanese, had to establish the legitimacy of his leadership amid the widening gap between Taiwan’s *de jure* sovereignty claim, which included the mainland, and its *de facto* area of jurisdiction, which consisted of Taiwan and the outlying islands. Recognizing the PRC’s control of the mainland called for President Lee to find new sources of his leadership including a popular mandate, a multiparty system, and Taiwan’s new identity. In the course of democratization in the early 1990s, President Lee not only succeed-

ed in marginalizing the mainlander-politicians, but also stirred a national debate on Taiwan's new identity.

At the risk of oversimplification, three major power blocs can be identified in contemporary Taiwan politics: the *KMT mainstream faction* led by President Lee; the *New Party*, which is a breakaway faction consisting of the KMT old guards and their children; and the *DPP*, whose members are predominantly ethnic Taiwanese.⁶ In recent years the three power blocs have offered divergent political visions to the electorate and, not surprisingly, engaged in an intense debate in every major policy.

As to Taiwan's mainland policy in particular, and the unification issue in general, for example, the New Party holds fast to the "one-China" principle, on which the legitimacy of the KMT's 40-year rule over Taiwan rests. Breaking off from the mainland, they warn, would immediately jeopardize the survival of Taiwan. At the opposite end of the political spectrum is the DPP's call for Taiwan's *de jure* independence. Its leadership often reminds the populace that mainland China has never ruled the island and therefore has no right to determine the future of Taiwan. They insist that Taiwan's interests would be better served by seeking a separate identity from that of the mainland, such as a seat in the UN. On the other hand, the KMT mainstream faction under President Lee apparently promotes a divided-nation, or "one-China, two governments" model and even the concept of the "Republic of China on Taiwan." They oppose the "one-China" principle—on which Beijing and Taipei have a different interpretation and understanding⁷—because it would permanently put the fate of Taiwan at the mercy of the Beijing leadership. They also reject the DPP's call for independence, since it would be a sure invitation for China's military to attack. They argue, rather, that the best hope for Taiwan lies in the consolidation of domestic consensus and the elevation of its international status. Viewed in this perspective, cross-strait exchanges should also be regulated by Taipei long enough to see the peaceful evolution of mainland China.

President Lee Teng-hui's "neither unification nor independence" stance—at least not now—is based on a sober assessment of Taiwan's present reality. To bridge the increasing gap between the KMT's long-standing but unrealistic claim for the sovereignty over all of China and

its *de facto* area of control, he acknowledged the PRC government's rule in mainland China, in the hope that the latter would reciprocate as well. To further secure Taiwan's international recognition, he has employed "pragmatic diplomacy" and the economic wherewithal to win diplomatic relations with foreign countries. His more gradual and arguably more realistic approach than those of his political rivals is also congruent with the interests of the sizable middle class in Taiwan, as reflected in his 54 percent electoral gain in March 1996.

But in the ongoing process of electoral democracy and Taiwanization, the current KMT's major political platforms have become virtually indistinguishable from those of the DPP. It is this background of Taiwan's transition to democracy and indigenization, against which Beijing's verbal attack on President Lee as a "traitor" and a "sinner" of the entire Chinese people and military pressure on Taiwan should be understood. In Beijing's view, President Lee's current stance on the unification issue apparently prefers the *status quo* to radical changes, but is in reality tantamount to "creeping independence" (*ming-tong andu*). Beijing's demonstration of military force was thus aimed at stemming what it perceives as Taiwan's calculated move toward a new identity apart from mainland China.

Politics of Leadership Succession in Mainland China

The unprecedented missile tests in July 1995, and the orchestration of the follow-up military pressure, reflect a major shift in mainland China's Taiwan policy from a moderate to a hard-line stance.⁸ In fact, how to cope with the Taiwan issue has always been a dilemma to the Beijing leadership. Too little pressure on Taiwan would not bring the latter to the negotiation table, whereas too much pressure would be detrimental to mainland China's economic development and unification scheme.

The post-Tiananmen Chinese leadership, which has placed a priority on the stability of domestic politics and the external environment, has pursued a moderate policy toward Taiwan. In particular, Jiang Zemin's assumption of the CCP Leading Group on Taiwan Affairs in 1992-93 initially allowed the moderate approach to prevail, as seen in the April 1993 Koo-Wang talks and Jiang's January 1995 Eight-Point Proposal. His moderate stance, however, has occasionally come under

attack by the hard-line PLA leaders, and by conservatives, both of whom were stunned by such unpropitious developments as the sale of 150 U.S.-made F-16s to Taiwan in September 1992, an upgrading of Taiwan representatives' status in the United States in September 1994, and President Lee Teng-hui's visit to America in June 1995.

Mainland China's tougher policy toward Taiwan in 1995-96 is thus a logical outcome of the Chinese politics of leadership succession to the ailing Deng Xiaoping. As Deng's era draws to a close, potential candidates for the leadership are prone to adopt a hard-line foreign policy. After seven years at the pinnacle of power, moreover, Jiang has yet to consolidate his authority at the top and, like all his predecessors, the PLA's support for his leadership is indispensable. The emphasis on consensus-building in China's decision-making process requires that even moderate leaders often take hard-line positions in pursuing pragmatic agendas; and Jiang, as a top leader, has to espouse the consensual view of the entire leadership, once it is reached.

Related to the politics of leadership succession is the timing of the military exercises. While all 1995-96 missile tests and military exercises were timed to political events in Taiwan, the timing of the March 1996 exercises was particularly adjusted to coincide with the political schedule in mainland China: the National People's Congress (NPC). This NPC, convened in March 5-17, was an important political event for Jiang in that it was not only scheduled to adopt several major national development plans such as the Ninth Five-Year Plan (9.5 Plan), but would also set the tone for the upcoming 15th CCP Congress in late 1997. In all likelihood, the 15th Party Congress could prove to be a political milestone for the future of post-Deng China, including the formal coronation for Jiang's political power. Given the existence of reform-caused social and economic discontent within society and the divergent views that erupted during previous NPC sessions, Jiang had a high stake in steering the NPC session toward a pre-planned course by launching military exercises near Taiwan.⁹

Another important consideration was the need to nip the separatist tendencies along China's borders in the bud. The forces of economic reform, coupled with the breakup of the Soviet bloc, has seriously eroded the validity of communist ideology among the populace and fostered centrifugal tendencies among China's ethnic minorities. To

arrest the deepening gap in state-society relations, central-provincial ties, and regional economic equalities, the Beijing leadership has increasingly resorted to the appeal of Chinese nationalism and patriotism. Military pressure on Taiwan was in part intended to suppress the potential separatist tendencies along China's border areas, such as Tibet, Xinjiang, and Inner Mongolia, and also in Hong Kong before its return to mainland China in July 1997.

Struggle for Legitimacy and Status in the International Arena

In the early 1990s cross-strait relations underwent major changes as both sides adjusted to the challenges and opportunities generated by the end of the Cold War. In particular, the creation of more nation-states, the increasing importance of economic factors, and the negative international publicity of the post-Tiananmen Beijing regime have all created an auspicious environment for Taiwan in its efforts to break out of diplomatic isolation in the 1970s and 1980s.

In spite of the towering international barriers imposed by Beijing, Taiwan for its part has an impressive array of diplomatic assets to employ in its international competition with mainland China, including its democratic political system, "pragmatic diplomacy," economic might, unofficial but extensive ties with the West, and talented human resources. Economically, Taiwan is the world's 14th largest trading power; China is only the 11th. Taiwan holds the world's second largest foreign exchange reserves and is a major investor and creditor in the developing countries.

Being well aware of mainland China's strategic advantages, Taiwan has pursued a multi-front, multi-level strategy aimed at greater international recognition, a wider participation in international and regional organizations, and a more extended interpretation of unofficial ties. One such example of Taiwan's efforts has been President Lee's "vacation diplomacy" in Asia (Singapore, Indonesia, the Philippines), the Middle East (Jordan, the U.A.E.), and Central America (Nicaragua, Costa Rica), where he met with the presidents and/or top leaders of the host countries. In addition, Taiwan's "pragmatic diplomacy" allowed it to participate in several international and regional organizations (Asian Development Bank, Asia Pacific Economic Cooperation, and International Olympic Committee) under the names of "Taipei, China"

or “Chinese Taipei,” even if these terms denote a subordinate status to Beijing.

Most disturbing to the Beijing leadership, however, has been Taiwan’s strides in promoting ties with the West, particularly the United States. Bounded by the unofficiality of relations in the Western countries, Taiwan has made extensive contacts with their non-executive branches at the national level or government offices at the subnational levels,¹⁰ and cultivated ties with opinion-makers in the media, socio-economic groups and academia. The effectiveness of Taiwan’s subtle but substantive diplomacy was further amplified when compared with Beijing’s heavy-handed approach, limited unofficial contacts, and inadequate diplomatic sophistication, let alone its controversial human-rights records.

In particular, President Lee’s unofficial visit to the United States was an alarming event in the eyes of the Beijing leadership in that the United States, the leader of the Western world with global interests and influence, could set a dangerous precedent for the other major nations. Frosty Sino-U.S. ties also might have influenced many Chinese leaders to believe either that the United States was trying to play the sensitive “Taiwan card” to check the rise of China, or that President Lee was capitalizing on the differences between China and the United States to secure greater international recognition, or both.¹¹ In any case, President Lee’s visit to the United States was seen as the last straw, which convinced the Beijing leadership that Taiwan had already gone too far. Viewed in this perspective, the root cause of the 1995-96 cross-strait tensions has been the continuing struggle between Taiwan and mainland China for legitimacy and status in the international arena.¹²

Taiwan-PRC Relations and Korea’s Strategic Viewpoint

Fundamental factors underlying the Korean viewpoint on the China issue are mainland China’s geographical proximity to the Korean Peninsula, China’s continuing influence on North Korea, the PRC’s growing bilateral ties with South Korea, and China’s fragile relations with the United States. Furthermore, China is highly likely to remain a major actor in Korean affairs, including the unification process. These considerations underpin Korea’s views on cross-strait relations.

The ROK's relations with Taiwan (the Republic of China) harken back to the 1930s, when the provisional Korean government located in mainland China collaborated with the KMT in their common struggle against the invading Japanese Army. The ROC was also the first country who recognized the ROK government when the latter was founded on August 15, 1948. During the Cold War, South Korea and Taiwan, who shared a strong anti-communist ideology, held close bilateral ties and joined the worldwide anti-communist coalition through security arrangements with the United States. At the same time, taking full advantage of generous U.S. economic assistance and an open American market, both South Korea and Taiwan achieved the rates of economic growth unmatched by any other country, notwithstanding their continuously high-level of defense spending.¹³ Both South Korea and Taiwan, in short, represent the success of the postwar U.S. commitment to democracy, prosperity, and stability in the Asia-Pacific region.

For two full decades after the Shanghai Communiqué in 1972 South Korea remained a major ally of Taiwan in Asia, and both countries maintained extensive contacts across-the-board, including political, economic, and military ties. However, after Seoul switched diplomatic recognition from Taipei to Beijing in August 1992, relations between Taipei and Seoul took a sharp downturn. In consideration of their respective national interests and past amicable relations, both governments have made strenuous efforts to restore their bilateral ties minus high-profile government-to-government contacts. As a result, their trade of US\$3.45 billion in 1992, when their diplomatic ties were severed, doubled in three years to US\$6.9 billion in 1995.¹⁴ Tourism, cultural exchanges, and scholarly contacts have mostly been restored to the pre-1992 level as well.

On the security front, however, there has been less corresponding progress between South Korea and Taiwan. As noted above, this is due primarily to the increasing importance of mainland China in Korea's security, prosperity, and unification. Aside from the cross-strait economic exchanges that carry direct implications for South Korea's trade with key regional states, security dynamics between Taiwan and mainland China rarely attract public or governmental attention in Seoul unless the tensions were built up, as in the case of the 1995-96 crises.

On the other hand, there is a growing awareness in the Korean academic and defense communities that the participation of Taiwan, a mid-level military power with fairly open defense records, in the present and future multilateral regional security dialogues can only contribute to regional stability, thus benefiting Korean security.¹⁵ During the March 1996 tensions, for instance, it was *not* the cross-strait confrontation *per se*, but its implications for East Asia's overall strategic environment and, in particular, for America's regional defense posture and North Korea's potential military behavior that drew the attention of defense planners in Korea. Thus it can be plausibly argued that the asymmetry of power between Beijing and Taipei carries different kinds of implications for the Korean Peninsula. Taiwan is often seen in a broader strategic context on which the stability of the peninsula rests, whereas Beijing is viewed as a major world power as well as a regional superpower that can influence both strategic and peninsular dimensions. In retrospect, it was probably the same strategic consideration that propelled Seoul to switch diplomatic ties and has driven it to promote better ties with Beijing since 1992.

Bilateral relations between South Korea and mainland China have expanded rapidly on most fronts. Their \$8.2 billion trade in 1992, the year diplomatic relations were established, soared to \$16.9 billion in 1995 and to over \$20 billion in 1996.¹⁶ Their growing economic and social ties are further buttressed by an increase in investment, tourism, and sea/air routes. To help consolidate their growing economic ties, the three top Chinese officials (i.e. Jiang Zemin, Li Peng, and Qiao Shi) visited Seoul between October 1994 and November 1995.

After the 1992 normalization, however, it became clear to the ROK policymakers and strategists that the two specific sets of goals its mainland China policy had aimed to achieve—i.e. facilitating inter-Korean relations—and thus the unification process—and improving bilateral ties with China *per se*—remained largely independent of one another and that there were no appreciable changes in its security relations with North Korea or with China.

As a matter of fact, notwithstanding the kaleidoscopic, global changes in the wake of the Cold War and the convention of the 1990-92 Prime Ministerial Talks between North and South Korea, the crux of

the South Korean security problem remains remarkably unchanged: a land-based military threat from North Korea. In particular, the future of the peninsula has been further clouded by North Korea's nuclear tenacity, the death of Kim Il Sung, and its ensuing political and economic uncertainties.

In the early 1990s North Korea suffered from a series of diplomatic setbacks most notably South Korea's diplomatic normalization with the Soviet Union (September 1990) and China (August 1992). Russia's unilateral abrogation in September 1995 of the treaty of friendship, cooperation, and mutual assistance with the North only underscored North Korea's current diplomatic predicament.¹⁷ In the same month, China openly disagreed with North Korea's avowed attempt to replace the current armistice agreement with a peace treaty with the United States, thus further underscoring a major difference in national interests between China and North Korea.¹⁸

Domestically, the North Korean economy has shrunk by an average 4.4 percent per year since 1990.¹⁹ Food shortages are pervasive and severe, especially in rural areas, and were aggravated by the floods of 1995 and 1996. Lack of electrical power may have forced the industrial utilization rate to less than 20 percent of its full capacity. Moreover, the North Korean regime may be losing control over its populace as evidenced by the increasing number and greater social status of recent North Korean defectors to South Korea. The most spectacular was the February 1997 defection of Hwang Jang Yap, chief architect of the *juche* ideology and international secretary of the Korean Workers' Party. His defection could be a harbinger of future instability in North Korea and would have had enormous impact on the psyche of the North Korean people had the news of his defection been known within the hermit kingdom.²⁰

On the other hand, despite South Korea's present confidence on the economic, diplomatic, and ideological fronts, military prospects are much less sanguine, due primarily to North Korea's forward deployment of its offensive elements, the numerical superiority and mechanization of its units, its missile and CB capabilities, and geographical advantages.²¹

Four years after normalization, mainland China also poses several potential sources of security concerns to South Korea:²²

- The continued Chinese-North Korean military-to-military contacts.
- In stark contrast to the remarkable expansion of their economic and even political contacts since 1992, the exchange of high-ranking military officers between the ROK and China has been virtually nonexistent and institutionalized military-to-military relationships have yet to develop.
- The possibility of maritime accidents in the Yellow Sea and its adjacent waters.
- The long-term implications of China's growing military capability for South Korean security.

In the longer term, China's improved military capability, coupled with a unified Korea's defense requirements, could complicate South Korean security planning. Even if South Korea is now pursuing a more self-reliant defense posture, it remains wary of how the potential power vacuum left by a reduced U.S. presence might be filled.²³ As long as this concern continues, South Korean security planners will remain watchful of China's growing military power and influence toward the Korean peninsula.

For years to come, China's primary goal toward the Korean peninsula will continue to be stability, which is conducive to its economic development. To achieve this goal, China hopes to balance both its geostrategic interest with North Korea and its geo-economic benefit with South Korea, whose \$16.9 billion trade with China in 1995 dwarfs the \$550 million trade between North Korea and China. The Beijing leadership has pursued the so-called "two-Korea" policy, which is deemed to be mutually complementary. Its success, however, will be largely dependent on how North Korea passes the most serious test of the resiliency of its political system amid its domestic and external problems.

Regarding the issue of Korean unification, China doubtless prefers the present stability and tangible gains to future instability and uncertain benefits. It is equally clear to China, however, that if unification does occur on the Korean peninsula, it will be on South Korean terms. In such an event, and if unification occurs peacefully,²⁴ China could take a minimalist stance or even acquiesce in the unification process and would try to prevent the peninsula from tilting toward a maritime

Japan as opposed to a continental China.

Critical to the Chinese assessment of post-unification relations with Korea would be the South's attitude toward China, the likelihood of maintaining China's influence on the peninsula, and the state of Sino-U.S. relations. Like other large nations, but especially the United States, China would carefully calculate whether or not Korean unification leads to a rise in its influence over a unified Korea relative to the others'.

Finally, the state of Sino-U.S. relations will remain a critical factor affecting future peninsular and regional stability. Ideally, an improved relationship between the United States and China, especially a renewed security cooperation, would contribute to regional stability and to the attainment of U.S. objectives in East Asia. In reality, however, the prospects for an improved Sino-U.S. relationship remain unsettled for the foreseeable future.²⁵ Few outstanding issues, including the Taiwan issue, human rights, trade, and nonproliferation, show any signs of early or conclusive resolution. On the contrary, there seems to exist fundamental differences between the two countries in terms of political systems, social values, and strategic objectives. Given China's weak political leadership and the political dynamics between Beijing and Washington, compromise on these differences will be difficult to achieve in the near future.

In short, a future contingency that the United States and Chinese militaries would find themselves on opposite sides is remote enough, but both sides may have already taken the other as a long-term security risk to their national interests. This does not bode well for regional stability or for Japan and Taiwan—both of which have a huge stake in stable relations between the United States and China.

Japan-China Rivalry and the Taiwan Issue

To Tokyo, the Taiwan issue cuts across several identifiable yet overlapping contexts on which Japan's major domestic and foreign policy debates are conducted: Japan-China relations, U.S.-Japan alliance, and Japan's changing yet undefined political profile and defense role in the region. For this reason alone, Japan's Taiwan policy has been cautious and conducted with an awareness of both China and the United States.

Because of a combination of factors—including its overall low-profile, non-confrontational foreign policy posture toward China, its history of aggression and occupation of both mainland China and Taiwan, and China's past, present, and future influence toward itself and the region—Japan has tried to prevent the Taiwan issue from standing in the way of Japan-China relations, notwithstanding its huge stake in Taiwan's prosperity and stability.²⁶ While the Liberal Democratic Party's (LDP) electoral debacle in 1993 and the ensuing changes in Japan's domestic politics are likely to open a renewed debate on the effectiveness of its policy toward China, the Taiwan issue is unlikely to be a major source of constraint in the Sino-Japanese relationship.

Tokyo's caution with respect to the Taiwan issue is best captured by Shinkichi Eto, a long-time China observer, in the following metaphor:

Matters that China regards as most central to its national interest—for example, the territorial issues revolving around Taiwan and Tibet—should be regarded as the sensitive hairs on the elephant's chin: one prerequisite for a manageable relationship [with China] is never to touch them.²⁷

Likewise, while U.S.-Japan policy divergence toward China has not been uncommon (e.g. human rights, post-Tiananmen sanctions), their difference on the Taiwan issue apparently has not been so great as to cause an irritation between Washington and Tokyo. This is partly due to Japan's low-profile, cautious approach to China, as noted above, but Japan's cautiousness itself drives from the fact that Japan is far more endangered by China's pressure than the United States, for reasons running the whole gamut from the historical issues to China's perceived and actual threat.

The Taiwan issue is also related to the ongoing debate on Japan's regional security role. At issue is a definitional shift in Japan's defense contribution from the "defense of the Far East" (Article Six of the U.S.-Japan Mutual Security Treaty) to the "areas surrounding Japan," as stipulated in the November 1995 National Defense Programme Outline (NDPO) and reconfirmed in the April 1996 U.S.-Japan Security Declaration. China has always been wary of Japan's expanded region-

al role, of course, but this time it would like to know whether or not the "areas surrounding Japan" include Taiwan. Apparently, Japan's official policy on this issue seems to be "not to offer a specific definition," given Chinese and other neighboring nations' sensitivity on Japan's regional defense role.²⁸

Taken together, the Taiwan issue touches upon several major policy debates in Japan. But Japan has been able to manage its foreign policy in the contexts of Japan-China and U.S.-Japan relations. Of greater consequence for the Asia-Pacific region and for Taiwan, however, is how Japan-China relations may evolve. This requires an understanding of the history of Japan-China relations and the current dynamics of their bilateral ties, which are in many respects a new phenomenon. How the old ways of thinking and the new dynamics interact with each other in China-Japan relations could prove to be a continuing problem for Asia's security and prosperity.

As befits their traditional rivalry for regional influence, and as the two most powerful states in East Asia, Japan and China have a broad range of bilateral concerns. This should surprise no one, as Akira Iriye has recently shown,²⁹ given the fact that both countries have, since the 1880s, developed multifaceted rivalry relations on the power, culture, and economic dimensions. Traditional mutual perceptions between the Chinese and the Japanese have been complex, but far from cordial.

Their traditional mutual condescension was sharply aggravated by the Japanese invasion of China in the first half of this century. Different ideological subscriptions after 1945 divided them until the early 1970s. In a little more than the two following decades, China and Japan have tried to set aside historical and cultural baggage and hammer out a new working relationship.

It thus seems safe to say that China-Japan relations in the 1970s and 1980s were an amalgamation of practical need for economic and strategic considerations and historically deep-seated suspicions about the other's intentions and behavior in the region. Seen from this perspective, the end of the Cold War and China's growing economic and military power could well pit China and Japan against each other in a competitive bid for economic influence and regional roles in East Asia.

At the heart of their official relationship lies trade, investment, and aid. Bilateral trade between Japan and China in 1995 reached a record

\$57.5 billion, making Japan China's largest trading partner. In fact, Japan now constitutes what the Chinese call "three firsts": Japan is the first in China's trade relations, technology imports, and domestic investment. China's is also the largest recipient of Japan's Official Development Aid (ODA) which is aimed at building China's social and economic infrastructures. Due to the asymmetrical importance of economic relations to China, Beijing has largely abstained from openly and directly criticizing Japan's security policy, while Japan has tried to link the ODA with enhanced "transparency" in Chinese military affairs.

On the security front, Japanese concerns include China's uncertain future, lack of military transparency, the territorial disputes over the Senkakus/Diaoyudao, Sino-Russian military cooperation, nuclear tests and missile proliferation, and the PLA's increasing strategic reach to the South China Sea.³⁰ China's growing regional influence and its power projection capability amidst the region's "strategic uncertainty" could well complicate Japan's economic and security policy in two major ways. First, China's expanding maritime interests, manifested in its recent moves in the South and East China Seas, could pose a challenge to Japan's huge trade and investment stakes in Southeast Asia. Not only has Japan been the largest investor in that subregion, but as an energy-deficient nation Japan needs to continuously secure the extensive sealanes for trade and energy.³¹ It is noteworthy that Japan's 1,000-nm defense perimeter overlaps with China's maritime claims and that both navies are increasingly operating within the same area.

Second, China can also indirectly influence Japan's current problems with North Korea and Russia. Japanese defense officials are well aware that China is either directly or indirectly related to the potential missile threat to Japan. Sino-Russian military cooperation could not only raise the level of regional arms buildup, but it could contribute to the development of China's power projection capability—a prospect Japan intends to delay by linking economic aid to Russia with the latter's arms sales to China.³² In addition, China's influence on the Korean peninsula has been a traditional concern to Japan, and is more so now in the context of the Chinese role in a future North Korean contingency and in the Korean unification process.

To Chinese security planners, on the other hand, Japan's defense

budget (US\$53.8 billion in 1995) and naval modernization pose a source of concern. For this reason, there have been only limited bilateral security dialogues between the two sides.³³ Of particular importance is Japan's 1,000-nm defense perimeter to secure the sea lanes of communication for trade and raw material, which has obvious implications for China's expanding maritime interests. As such, each side has been critical of the other's moves toward a greater military capability or a larger regional role. In addition, Japan is suspicious of a reincarnation of China's traditional cultural dominance in the region once China achieves its military modernization, while Japan has long been a rallying point for renewal of nationalism in China.

High-level visits such as Jiang Zemin (April 1992) and Emperor Akihito (October 1992) have all emphasized that both countries need, for the moment, to put aside historical enmities against each other. Their growing trade and investment relationships have largely restrained open criticisms against each other. But, the point is that their traditional rivalry and historical distrust linger on.

Despite the Chinese analysts' pessimistic view of the U.S. role in East Asia, they are well aware that the U.S.-Japanese security relationship remains central to East Asian stability. Thus, the so-called "double containment" role of U.S. forces over Japan's unilateral military role is seen in a positive light among most Chinese security analysts, since it is conducive to the Chinese pursuit of economic development. On the other hand, some Chinese analysts believe that the disappearance of a common foe, and the new dynamics in both American and Japanese domestic politics, could lead to the redefinition of U.S.-Japanese security relations in the years ahead, as in the case of the April 1996 Security Declaration.³⁴ It is this complex and interactive web of changing relations among the regional powers, against which the contours of the future Asian security environment must be assessed.

Future Prospects of Taiwan-PRC Relations and Their Regional Implications

Asian prosperity and security will be increasingly shaped by the economic and security trajectories of China and Japan, and by U.S. interactions with both countries. A continued U.S.-Japan security relationship is vital to American interests and to Asian stability. But how

long the current lopsided security ties will be acceptable to their respective publics remains uncertain.

Continued U.S. engagement with China will be an important step toward the long road to a stable Asia, but there is also a distinct possibility that a strong China with a nationalistic agenda would call for a continuing U.S. presence in Asia for the sake of regional stability. Under almost any circumstance imaginable, this would bring the U.S. alliance ties with the ROK and Japan closer together, given their elaborate defense arrangements and high priority in U.S. strategic planning.

On the other hand, the longer-term prospects for the cross-strait relationship do not bode well. As long as the current and likely political dynamics in Beijing and Taipei drive both sides in diametrically opposite directions, a mutually acceptable *modus vivendi* will be hard to achieve.

Arguably, one alternative might be a renewed emphasis on "economic convergence" between the two sides, given China's huge stake in economic development and its deepening international interdependence. Another is a possible trade-off between China's acceptance of Taiwan's partial but improved international status, which Taiwan pursues, and Taiwan's reciprocal lifting of the ban on the "three links," which China insists.³⁵ Still another is "no solution is the best solution," which is a preferable option to many third parties, but would put Taiwan in a disadvantageous position. Unfortunately, all three suggestions presuppose political compromise on one or both sides, which is unlikely to be forthcoming in the near future.

In particular, the post-Deng leadership in China faces new and complex challenges, from leadership unity, to social and economic problems, to international pressure for change in China. The year 1997 is an eventful one for China, including the return of Hong Kong (July), the 70th anniversary of the PLA's founding (August), and the 15th CCP Congress (fall). In all likelihood, these events may reinforce the current emphasis on Chinese nationalism, especially given Jiang Zemin's need to consolidate his leadership position and to expand his own power base.

In order to help deter and defuse cross-strait tensions that could lead to a military conflict, the United States should maintain regular

and frequent high-level contacts with Beijing. Even if a political solution to the cross-strait rivalry lies primarily in the hands of Beijing and Taipei, the United States and East Asian nations have a vested interest in the peaceful resolution of the Taiwan-mainland China dispute.

To help achieve a peaceful resolution and to ensure a stable and prosperous Asia, a firm United States' commitment and credible force presence, and increased Asian allies' burden sharing are necessary. U.S. and Asian governments need to expand the scope of dialogue and communication with the other's publics and parliaments to further strengthen the mutual bonds between the two sides. Careful handling of the remaining political disputes and closer security and economic ties between the United States and Asia could make the success of their postwar relations continue well into the 21st Century.

Notes

1. For a useful comparison of bilateral dialogue and continuing differences in cross-strait and inter-Korean relations, see Bates Gill, "The Divided Nations of China and Korea: Discord and Dialogue," in *SIPRI Yearbook 1996: World Armaments and Disarmament* (Oxford: Oxford University Press, 1996), pp. 132-59.
2. Yun-han Chu, "Unravelling Taiwan's Mainland Policy: A Political Economy Analysis," paper presented at an international conference on "Taiwan-Mainland China Relations and the Asian Pacific Region," sponsored by the *China Times*, Taipei, Taiwan, July 22-23, 1996, p. 1.
3. Mainland Affairs Council, *Liang'an Jingji Tongji Yuebao* [The Cross-Strait Economic Statistics Monthly], No. 44 (April 1996), pp. 23-24.
4. *Ibid.*, pp. 37-38. Since the same individual often makes repeated visits, the number of people in Taiwan who actually visited the mainland would be considerably less than the figure indicates.
5. For examples of the view that Taiwan's democracy has been the root cause for cross-strait tensions, see Chang Pao-min, "The Dynamics of Taiwan's Democratization and Crisis in the Taiwan Crisis," *Contemporary Southeast Asia*, Vol. 18, No. 1 (June 1996), pp. 1-16; Timothy Ka-ying Wong, "The Impact of State Development in Taiwan on Cross-Strait Relations," *Asian Perspectives*, Vol. 21, No. 1 (Spring-Summer 1997), pp. 171-212.
6. I am indebted to Andrew Yang and Arthur Ding who clarified the three power blocs' political platforms and their continuing ambiguities on major issues. Discussion in Taipei, Taiwan, July 1996.
7. For Taiwan's and Beijing's different interpretations of the "one-China" principle, see Mainland Affairs Council, *MAC News Briefing* (No. 10), January 20, 1997, p. 1; Chen Qimao, "The Taiwan Strait Crisis: Its Crux and Solutions," *Asian Survey*, November 1996, pp. 1055-66.
8. For a discussion on China's Taiwan policymaking process and the military balance in the Taiwan Strait, see Tai Ming Cheung, "China-Taiwan Relations: Conflict or Compromise?" *An Eye on China* (Hong Kong: Kim Eng Securities, May 1996), pp. 1-20; Ken E. Gause, "China's Policy Towards Taiwan," *Jane's Intelligence Review*, December 1995, pp. 561-66; Edward Friedman, "Chinese Nationalism, Taiwan Autonomy and the Prospects of a Larger War," *Journal of Contemporary China*, Vol. 6, No. 14 (March 1997), pp. 5-32; and Andrew Yang, "Taiwan's Defence Build-up in the 1990s: Remodelling the Fortress," in Gary Klintworth, ed., *Taiwan in the Asia-Pacific in the 1990s* (St. Leonards, Australia: Allen & Unwin, 1994), pp. 72-88.

9. *China News Analysis*, No. 1557 (April 1, 1996), pp. 4 and 6.
10. Pei Minxin, "Managing China-Taiwan Competition in the International Arena," paper presented at an international conference on "Taiwan-Mainland China Relations and the Asian Pacific Region," sponsored by the *China Times*, Taipei, Taiwan, July 22-23, 1996, pp. 4-6.
11. Yan Xuetong, "Orientation of China's Security Strategy," *Contemporary International Relations* (English edition), Vol. 6, No. 2 (February 1996), pp. 1-15.
12. For this line of argument, see David S. Chou, "The International Status of the Republic of China," in Yu San Wang, ed., *The China Question: Essays on Current Relations Between Mainland China and Taiwan* (New York: Praeger, 1985), pp. 143-52. See also Chen Qimao, "The Taiwan Strait Crisis: Its Crux and Solutions."
13. Steve Chan and David R. Davis have cogently argued that, unlike the conventional wisdom, there exist no direct and simple causal connections between "guns" and "butter" in the case of Taiwan and South Korea. See their "Defense Allocation, Inflation, and Unemployment in South Korea and Taiwan: A Granger Analysis," *Korean Journal of Defense Analysis*, Vol. 3, No. 2 (Winter 1991), pp. 239-57.
14. *Far Eastern Economic Review*, August 1, 1996, p. 12; Mainland Affairs Council, *Liangan Jingji Tongji Yuebao*, p. 62.
15. This would also leave North Korea the only Northeast Asian state who does not participate in any major regional security dialogues.
16. Korea Trade-Investment Promotion Agency (KOTRA) data. See also Xiaoxiong Yi, "China's Korea Policy: From 'One Korea' to 'Two Koreas,'" *Asian Affairs*, Summer 1995, p. 124. Some sources cite US\$5.8 billion as the figure for ROK-PRC trade in 1992, but it includes only direct trade between the two and exclude indirect trade, mostly conducted via Hong Kong.
17. For the current status of the Russian-North Korean negotiations over a new bilateral treaty, see Sophie Quinn-Judge, "Fancy Footwork: Moscow Tries to Rebuild Ties with Pyongyang," *Far Eastern Economic Review*, February 27, 1997, p. 23.
18. Well before its open disagreement with the North Korea in September 1995 regarding the latter's attempt to conclude a peace treaty with the United States, the Chinese side had unofficially relayed its position to South Korea. The Chinese position can be summed up as follows: (a) It is necessary to maintain the current Armistice Agreement until a secure and effective peace system is established on the Korean Peninsula; (b) A unilateral abrogation of the Armistice Agreement by either side is not only incorrect but also impossible; (c) The Armistice Agreement is essential to the maintenance of peace on the

peninsula; and (d) The North Korean attempt to conclude a peace agreement with the United States by nullifying the Armistice Agreement is unrealistic and impossible. See *Dong-A Ilbo*, September 26, 1995, p. 1 and Kim Kyung-ho, "China Opposed to N.K. Proposal for Peace Treaty with the U.S.," *Korea Herald*, September 26, 1995.

19. The North Korean economy has continuously registered negative growth rates since 1990. They were -3.7 percent in 1990, -5.2 percent in 1992, -7.6 percent in 1993, -4.3 percent in 1993, -1.7 percent in 1994, -4.6 in 1995, and -3.7 percent in 1996. Bank of Korea data.

20. Kevin Sullivan and Steven Mufson, "Top North Korean Defects to South," *International Herald Tribune*, February 13, 1997, pp. 1 and 7. For a full text of Hwang Jang Yap's press interview, see *Dong-A Ilbo*, July 11, 1997.

21. For a detailed discussion on North Korea's military posture, see Taeho Kim, "Korean Security in a Post-Cold War Northeast Asia," in Williamson Murray and Allan R. Millett, eds., *Brassey's Mershon American Defense Annual 1996-97* (Washington, DC and London: Brassey's, 1996), pp. 185-202 and 270-72.

22. Taeho Kim, "Korean Perspectives on PLA Modernization and the Future East Asian Security Environment" to be published in a single volume edited by Richard H. Yang and Jonathan Pollack (forthcoming in 1997).

23. James A. Winnefeld, Jonathan D. Pollack, Kevin N. Lewis, Lynn D. Pullen, John Y. Schrader, and Michael D. Swaine, *A New Strategy and Fewer Forces: The Pacific Dimension*, R-4089/2-USDP (Santa Monica: RAND Corporation, 1992), pp. 46-49.

24. For differing Chinese attitudes toward Korean unification, see Banning Garrett and Bonnie Glaser, "Looking Across the Yalu: Chinese Assessments of North Korea," *Asian Survey*, Vol. 35, No. 6 (June 1995), pp. 528-45, especially pp. 538-39; Fei-Ling Wang, "Chinese Perception of the U.S.-ROK Alliance," in Tae-Hwan Kwak and Thomas L. Wilborn, eds., *The ROK-U.S. Alliance in Transition* (Seoul: Kyungnam University Press, 1996) pp. 73-91.

25. For a comprehensive but focused discussion on the different internal political dynamics in Washington and Beijing, see David Shambaugh, "The United States and China: A New Cold War?" *Current History*, Vol. 94, No. 593 (September 1995), pp. 241-47. See also Robert Sutter, *China's Rising Military Power and Influence: Issues and Options for the U.S.*, CRS Report for Congress, 96-66 F (January 16, 1996), pp. 1-45.

26. Japan's 1995 trade with Taiwan was US\$43.4 billion, making Japan Taiwan's second largest trade partner after the United States with US\$47.2 billion.

27. Shinkichi Eto, "China and Sino-Japanese Relations in the Coming Decades," *Japan Review of International Affairs*, Vol. 10, No. 1 (Winter 1996), pp. 16-34. The quotation is on p. 32.
28. But the definition of the "Far East" is widely known to be the area north of the Philippines, which obviously includes Taiwan.
29. Akira Iriye, *China and Japan in the Global Setting* (Cambridge: Harvard University Press, 1992). He strongly argues, however, that the future of China-Japan relations will be determined by cultural cooperation, as a part of the global trend toward cultural interdependence, rather than by economic or military competition between them. The questions why global cultural interdependence has become the "primary definer" of recent international affairs or why this applies to China-Japan relations are not clear.
30. The disputed small island group off Taiwan is currently occupied by Japan and is called Senkakus by Japan, Diaoyudaos by mainland China, and Diaoyutai by Taiwan. For further details, see Ji Guoxing, "The Diaoyudao (Senkaku) Disputes and Prospects for Settlement," *Korean Journal of Defense Analysis*, Vol. 6, No. 2 (Winter 1994), pp. 285-311. Japan's naval modernization is in part influenced by China's growing strategic reach. See Shigeo Hiramatsu, "Chinese Navy and the Revival of 'Sinocentrism'," *Shin boei ronshu* [Journal of National Defense], Vol. 20, No. 3 (December 1992), pp. 16-37.
31. *Ibid.*
32. Jim Hoagland, "An Arms Race in East Asia," *Washington Post*, July 14, 1992, p. A13; Richard C. Thornton and Bruce A. Babcock, "Japan's Response to Crisis: Not with a Bang but with a Buck," *Global Affairs*, Winter 1993, pp. 1-11.
33. For further details, see *FBIS-CHI*, March 2, 1994, pp. 7-8; *Chosun Ilbo* (Chicago edition), January 17, 1995. As part of a good-will tour, General Tetsuya Nishimoto, Chairman of the Japan's Joint Staff Council, visited both China and South Korea in late February 1995. See *FBIS-CHI*, February 21 and 22, 1995, pp. 6-7 and 5-6, respectively.
34. John Zeng, "The New US-Japan Security Partnership: An Alliance for the 21st Century," *Asia-Pacific Defence Reporter*, July-August 1996, p. 6; Michael J. Green and Benjamin L. Self, "Japan's Changing China Policy: From Commercial Liberalism to Reluctant Realism," *Survival*, Vol. 38, No. 2 (Summer 1996), 35-58.
35. This proposal is discussed in Pei Minxin, "Managing China-Taiwan Competition in the International Arena," pp. 9-10.

Arthur Waldron

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Back to Basics: The U.S. Perspective on Taiwan-PRC Relations

by Arthur Waldron

It is now 25 years since Richard Nixon's announcement that he would visit the People's Republic of China (PRC). In that time everything, and nothing, has changed. With respect to American relations with the PRC, change has been near total in most dimensions. But, despite some alterations in protocol, things have changed relatively little with respect to Taiwan—certainly less than was expected in the 1970s. Taiwan and mainland China are still two distinct political regimes (and they are growing more distinct) and neither shows any sign of packing up. Most importantly, as the March 1996 Straits crisis—with its echoes of 1958—reminded all, the United States still has a strong security relationship with Taiwan.

Thinking about the real future of China, Taiwan, and the United States, however, is remarkably undeveloped. There will, of course, be one “real future” unfolded over days and weeks and years in events and news reports. It is likely that this real future will be rather different from any of the scenarios currently popular, such as peaceful reunification or disastrous conflict. All sorts of reasons conspire to prevent the sort of open and speculative discussion required. These reasons range from political sensitivities to a desire to speak diplomatically, to an understandable unwillingness to increase already difficult problems. Nevertheless, there is a need for unconstrained discussion.

Protocol—A Starting Point

Perhaps the largest single objective difference between the situation today and that of 25 years ago is in the forms of language and diplomacy used. In essence, the taboos that were applied to the PRC in the 1950s and 1960s are now applied to Taipei. But the difference does not end there, for as is true of taboos generally, an associated way of think-

ing gives them more than ritual significance, and here we find an important difference between the two cases. In the 1950s and 1960s most American foreign policy experts understood that it was essential to come to terms with the PRC; and indeed, at least from Eisenhower on, successive administrations tried to do just that. The problem was that the PRC was not ready: in Dean Rusk's words, Beijing kept "hanging up the phone" on American initiatives.¹ Today, there is a comparable anomaly in our relations with Taiwan, and the way it complicates Asian policy is only beginning to receive attention.² Many government and foreign policy experts still believe that the basic problems were solved with "normalization" with the PRC; they have not yet grasped that the structure put in place in 1979, like that of the 1950s and 1960s, is very much based on "make believe."

This "make believe," however, has had the effect of confining and impoverishing discussion, while at the same time removing from the hands of Washington (and the world, which has followed us) many of the standard everyday tools of diplomacy, crisis avoidance, and security maintenance, such as diplomatic relations, alliances, state visits and summit conferences, not to mention military consultations, ship visits, and so forth. (Think how much easier it would be to manage relations with Taiwan and thus with PRC, if, for example, Lee Teng-hui and other top officials could get the full White House treatment). Furthermore, by creating false expectations, and hence unrealistically high demands in negotiations, American "make believe" has helped push PRC policy toward Taiwan down paths that ultimately lead nowhere.

Indeed, the elaborate pretenses of the relationship with China have now become so familiar that they are mistaken for reality. The lack of basic change over the past quarter century with respect to Taiwan and PRC comes almost as a surprise to many. Once recognized, however, it sets the agenda for American policy toward the Taiwan Strait in the decades ahead. An indefinite future lies ahead, in which two states coexist in an ambiguous and increasingly unstable relationship, in which the security interests of the United States will continue to be intimately involved.

The challenge for Washington is to develop a policy truly adequate to dealing with this situation. Certain aspects of such an approach follow. Taiwan, as Beijing now regularly points out, is a major issue

between the United States and China. It is also a key symbolic issue in Chinese domestic politics. And it remains, as March 1996 showed, a potential flashpoint for serious crises. But, contrary to widespread expectations in the 1970s and 1980s, issues associated with Taiwan are not "self-liquidating"; they are not going to go away, and to pretend they will is to forfeit the opportunity to think and act effectively, and fritter away precious opportunities for action. The United States needs to consider the real future of PRC-Taiwan relations as opposed to the diplomatic rhetoric; to develop a policy approach that serves U.S. and allied interests, and to work hard to bring the PRC along in its implementation.

Great Expectations

Wisdom about U.S. policy toward China begins with the fundamental political fact that although an overwhelmingly large constituency exists here for good relations with PRC, effectively no constituency supports hurting Taiwan. This was abundantly clear in the U.S. Congress during 1978 as the diplomatic break with Taipei approached and shows up dramatically in the legislative history of the Taiwan Relations Act.³ Taiwan's democratization and the PRC's turn toward repression since 1989 have only reinforced the fact. As a result, whatever the United States does with respect to the PRC and Taiwan must be accompanied by strong and clear reassurances, such as Jimmy Carter's, at the time relations were broken with Taipei, that "The United States is confident that the people of Taiwan face a peaceful and prosperous future."⁴

Yet for all this reassurance, a quite different set of expectations has existed since the 1970s in some Western policy circles, and in Beijing—that, in fact, Taiwan was not going to survive indefinitely. Some Americans seem to have expected that China's opening and liberalization would lead naturally to negotiations, while Beijing saw the Nixon diplomacy as the first step in a gradual process of cutting official U.S. ties with Taipei that would eventually force Taipei to come to terms. Because Beijing expected the United States to assist in this process, Ruan Ming, the distinguished former PRC official, has labeled this the policy of *lianMei zhiTai* [uniting with America to control Taiwan].⁵

The subterranean political struggle between those who saw Sino-American "normalization" as the beginning of the end for Taiwan, and those who drafted legislation and took diplomatic initiatives to ensure Taiwan's continued survival rarely emerges into broad daylight. It is a contest between values and visions, and above all, expectations. The earliest hints of an expectation that Taiwan would not survive indefinitely can be found in the record of the Nixon diplomacy. Thus Henry Kissinger recalls how, on the day he was to leave for his first trip to Beijing, he met James Shen, the Taiwan ambassador, to discuss the issues of UN representation. "No government less deserved what was about to happen to it than that of Taiwan" Kissinger recalls. "I found my role with Shen particularly painful, since I knew that before long his esoteric discussion of UN procedural maneuvers would be overtaken by more *elemental events*."⁶ Furthermore, on first meeting Zhou Enlai, Kissinger affirmed the PRC formula that the United States did not seek to create "two Chinas, one China one Taiwan, or an independent Taiwan." (Kissinger omits this fact from his memoirs.)⁷

The expectation of fairly prompt change was stronger eight years later when the Carter administration finally cut, as they imagined, the Gordian knot and ended all official ties with Taiwan. Reassuring words notwithstanding, there was a sense in some quarters that Taipei would not recover from the seismic shock. "The United States," said the communiqué, "expects that the Taiwan issue will be settled peacefully by the Chinese themselves."⁸ Some in the U.S. government expected settlement in as few as three years;⁹ others, of course, worked hard on the Taiwan Relations Act and other measures having an opposite effect.

For Beijing, however, "normalization" was only the first step on a longer quest. Deng Xiaoping consistently linked together the establishment of diplomatic relations with the United States and the return of Taiwan as cause and effect, and expected that unification would be achieved within the decade of the 1980s. In 1979 he stated that "the establishment of diplomatic relations with the United States has created favorable conditions for the return of Taiwan." In his interview with "Sixty Minutes" he expressed a hope that the United States would play a role [*you suo zuowei*] in the process of assisting the PRC in achieving its objective.¹⁰

Deng's expectation was greatly strengthened by the 1982 arms sales

communiqué, which implied that, after a “decent interval,” Taiwan would simply cease to have the means to protect herself. The United States stated that it intended “to reduce gradually its sales of arms to Taiwan, leading over a period of time to a final resolution.”¹¹ This sounded very much like saying that the United States would permit Taiwan’s forces to become obsolete: where, after all, was she going to obtain the new navy and air force she would soon require? (The United States had just refused to permit sale of the Northrop F-20, specifically designed for the island, to Taiwan).

On both sides, these expectations formed a crucial but largely unacknowledged subtext to the whole process of “normalization,” and the complete failure of these expectations is a basic problem today. Official media in the PRC increasingly express outrage at the not-so-residual American support for Taiwan and are upset to discover that Washington meant what it said when it insisted, in the negotiation of the three communiqués, on peaceful means only. According to one Asian diplomat, the Chinese were “shocked by the U.S. reaction during the Taiwan Strait crisis.”¹² In the West, what Ian Buruma terms “peevisishness” can be detected among some China hands, confronted by Taiwan’s increasing tendency not to follow their scripts but rather to go its own, democratic way.¹³

Half the Communiqués’ Meaning?

In fact, the wording of the three communiqués defining U.S.-PRC relations (1972, 1979, 1982) presented Beijing with the proverbial poisoned chalice. The United States would end official relations with Taiwan if, and only if, they would effectively renounce the use of force against the island. An expectation about peaceful means was woven tightly and inextricably into the fabric of each of the communiqués; American concessions were carefully balanced by Chinese assurances. Indeed even the 1982 negotiations, which looked like a real change in the American approach, rested on Chinese assurances that their “fundamental” policy toward Taiwan was peaceful. In other words, U.S. withdrawal of troops from Taiwan and restraint on arms sales did not mean the United States was abandoning the island; rather, they meant that the PRC had authoritatively committed itself not to threaten it. As the Taiwan Relations Act put it, “the United States decision to

establish diplomatic relations with the People's Republic of China [rests] upon the expectation that the future of Taiwan will be determined by peaceful means."¹⁴

This was a game that PRC could not win, unless the rules were changed (or unless the PRC decided to make a realistic compromise), but Beijing was willing to play as long as she faced the Soviet threat, or valued economic development above all. As long as Deng Xiaoping was in power she did play very cooperatively. Until the mid 1990s she rarely threatened Taiwan verbally, and carefully refrained from military deployments that could be interpreted as threatening. Quite the opposite: she sought negotiations (such as the Koo-Wang talks in Singapore) and resolved issues (such as Olympic participation) rather pragmatically. But then, as Deng passed from the scene in the mid-1990s, the PRC began to try to change the game. The recent redefinition of "One China" to mean "PRC" is an example.¹⁵

Today the PRC is using what in the 1930s were called "salami tactics" to redefine the three communiques by removing the bits it dislikes slice by slice and keeping the rest. More specifically, it is attempting to maintain the American commitment to Beijing—no official relations, no military forces protecting Taiwan—while discarding the Chinese undertaking—no threat to Taiwan.

The change has complex roots. In the mainland, the 1989 regime crisis and Tiananmen massacre led to a policy shift away from reform and democratization, which made the regime more belligerent externally and less attractive to Taiwan. Indeed, the desire to square Taiwan away, by force if necessary, is simply the June 4, 1989 domestic policy applied externally, and this approach is not limited to Taiwan. Chinese dissidents, as well as residents of Hong Kong, Tibetans, Turks, Mongols, and others are also feeling pressure from Beijing's current program of forcible recentralization.

But in Taiwan the direction of change has been the opposite, toward liberalization. There, long standing domestic demands for reform plus American warnings after the murder of Henry Liu set in train a process of democratization that has given the people of the island the last word on any negotiation, and thus ruled out most PRC scenarios (deals with senior mainlanders, party-to-party talks, and so forth). With democratization has come Taiwanization, which has invig-

orated the political process in Taiwan and increased popular identification with the state, which worries Beijing just as much as democracy did and does.

On the American side, various nuances of the communiqués' language began to be lost in the early 1990s. Thus, in August 1995, after the meeting of Qian Qichen and Warren Christopher in Brunei, the Chinese foreign minister reported that Washington had "reaffirmed in specific terms that the United States recognized Beijing as the sole legitimate government of China, including Taiwan."¹⁶ If true, the American statement had made a hash of the careful diplomacy of the 1970s, which "acknowledged" but did not endorse, Chinese claims. It is, after all, not very difficult to say: "fine, Taiwan is yours." What took skill in the 1970s was coming close enough to saying that to permit U.S.-PRC relations to develop, but still to reserve the United States position.

Equally important, the credibility of America's subtly-expressed but real commitment to Taiwan's security began to erode. Chinese expectations were fed by the mild language with which the United States responded to a series of East Asian security challenges during late 1994 and 1995, notably the Kitty Hawk and Mischief Reef incidents. When PRC fired ballistic missiles into waters near Taiwan in 1995, the State Department noted only that they were "not conducive to peace and stability in the area of the Taiwan Strait."¹⁷

From the Chinese side, statements and signals about non-use of force became similarly muddy. PRC began acquiring more advanced weaponry and, breaking with previous practice, deployed it near Taiwan. Rhetoric changed as well: force, it turned out, was actually a necessary ingredient in dealing with Taiwan. As Jiang Zemin told the publisher of the *Asahi Shimbun* at Beidaihe on August 12, 1995, "If we abandon the threat of force against Taiwan, *then it is not possible that peaceful reunification will be achieved.*"¹⁸

Experiments with Coercion

The PRC missile tests near Taiwan in March 1996 finally brought these problems into the open. Under the communiqués' rules such an action was completely out of bounds: can one imagine Nixon or Carter, not to mention Reagan, signing a communiqué with a China that was

lobbing missiles at Taiwan? Furthermore, the Taiwan Relations Act contained wording that came within a micron of committing the United States to Taiwan's defense. Congress queried the administration. The response was that "in the end the decision would depend on the timing, pretext, and nature of Chinese aggression." The intention was to deter through what the Pentagon called "strategic ambiguity"¹⁹ but that did not work.

Chinese strategic thought has always esteemed the minimization of the use of force [*li*], and the maximal exploitation of circumstances [*shi*] through the use of strategems [*ji* or *ce*]. In 1995 and 1996 Chinese operations showed these characteristics, as well as a concern to employ force at a level high enough to intimidate the local adversary (the Philippines, Taiwan) while at the same time low enough not to elicit intervention from the United States. The use of ballistic missiles against Taiwan, in the expectation that they would create a political crisis without bringing in the United States, fit this profile.

Sun Zi counsels "attack that which is not defended,"²⁰ and by choosing ballistic missiles as the means to threaten Taiwan, the PRC was selecting a weapon for which no defense currently exists. It is true that when two U.S. carrier battle groups were sent to the area, the crisis quickly wound down, but that was not because the carriers could do anything against the missiles. Had PRC wanted to, they could have continued firing missiles and even the dispatch of the entire U.S. Navy, and for that matter the U.S. Air Force as well, could not have stopped them.

Obviously one conclusion that flows from the March crisis is that defense against missiles must receive attention. But this is not a popular project in the United States.²¹ The PRC, moreover, deeply fears missile defense because a Taiwan protected against missile strikes would, they believe, be free to opt for independence.²² This fear highlights the basic flaw (to which we will return) in the PRC approach to Taiwan: namely, that it still relies, in the end, on force or the threat of force—a threat which is both lacking in military credibility and also counterproductive diplomatically.

But even if a rather good theater missile defense existed, it would not solve the basic military problem, for if the PRC is willing to expend enough missiles, then it can saturate any defense system. Indeed, the deployment of missiles to threaten key targets (nuclear reactors?) plus

an ultimatum might be enough to compel Taipei to come to terms. What would the United States be able to do? One can imagine strong internal pressure in Taiwan for acceptance of terms, or if that was not forthcoming, then a sort of Eastern Munich, with Taiwan's president cast as Beneš, and the Powers instructing Taipei to give in.

What is the military answer to the scenario spelled out above if not missile defense? Unfortunately, it is *deterrence*. I say unfortunately, because the logic of strike, counter-strike, and mutually assured destruction cannot hold any appeal to anyone who grasps the horrors of war. But no substitute has been found for deterrence in the maintenance of peace, and a China that even toys with ideas such as the one just presented will elicit a good deal of deterrence.

At present, the PRC is the only nuclear power in East Asia; the task of deterring China (not to be confused with "containment") falls to the United States. If China continues to develop its missile forces, however, that task will become more difficult. Carriers may work now, but they are likely to be vulnerable in the future. Deterring the USSR required not just a short-term naval presence, but rather a whole structure of alliances, deployed forces overseas, and constant vigilance. Without a change in behavior, nothing less is likely to deter the PRC. Furthermore the problem of extended deterrence will become more acute, and states such as Japan and Korea will want to develop their own deterrent forces, as our closer allies France, Britain, and Israel have.

What about Taiwan? Objectively speaking, unless the situation can be stabilized and pacified, they need a deterrent. The PRC has warned Taiwan specifically against a nuclear program, as has the United States, and I doubt this will change. However, deterrence need not be nuclear and Taiwan has considerable resources. As President Lee Teng-hui put it in a speech to 700 military officers in early July 1996, "We have to make the Chinese Communists realize that if they use force against us, they will suffer unbearable damage, which could jeopardize the very foundation of their survival and development."²³

A Peaceful Solution? Or More Crises?

But how can the situation be stabilized and pacified? This question should be a primary focus of American planning. The ultimate

answer, I expect, will be through an intra-Chinese “normalization” comparable to the *Ostpolitik* that reduced tensions in Cold War Germany (and eventually brought unification).²⁴ Something along these lines is possible between Taipei and Beijing: people on both sides of the Strait get along; they share a great deal culturally as well as in objective interests; their disagreements are political. They are not Arabs and Israelis and they understand that. Rhetoric aside, no one has been killed in PRC-Taiwan fighting since the 1960s. So the raw material exists for a breakthrough.

The alternative is not pleasant to consider. If Beijing and Taipei do not secure a peaceful settlement, and particularly as long as Taiwan is seen to be making a reasonable good faith effort toward that end, then PRC attempts to push the process along by threats and coercion will only poison Beijing’s relations with Washington as well as (although they will avoid saying as much) with her Asian neighbors. This could jeopardize both the PRC’s economic future and the peace of the region. The road of force will lead only to tension and crisis, but not to resolution. Wishful planners may cook up beguiling scenarios involving cruise missile strikes against the Presidential building in Taipei but as with Israel and the Palestinians, or India and Pakistan, no military answer exists to the basic problem for either side.

But the obstacles to peaceful settlement are deeply entrenched. As there was in Germany, so there exists in the PRC today (it disappeared in Taiwan only a few years ago), a complete unwillingness to acknowledge the real *status quo*. Konrad Adenauer supported the Hallstein Doctrine (refusing diplomatic relations to states that recognized East Germany) and referred to the German Democratic Republic as “the Zone.” Brandt, who entered the grand coalition as foreign minister in 1966, recalls how “‘My’ Federal Chancellor [Kurt Kiesinger] did bring himself to answer letters from the other Germany . . . but he would rather have had half the world laugh at him than dignify the GDR as the name of a state; he insisted on calling it a ‘phenomenon.’”²⁵ American officials do much the same when it comes to Taiwan and this is not cost-free, for such a U.S. policy can only encourage Beijing (as its mirror image once encouraged Taipei) toward this dead-end course.

Chiang Kai-shek, after all, used to insist on absolute denial of the

mainland, and the United States went along (otherwise he could never have managed it as long as he did). The policy caused terrible misjudgments and lost opportunities. Thus, in 1964 Paris agreed to recognize Beijing, but drove a hard but judicious bargain that was difficult for the PRC to accept because, among other things, it did not break French relations with Taipei. Beijing swallowed hard and agreed. Had Taipei accepted the deal, the whole course of diplomacy would probably have been different. But Taipei completed the breach with Paris, withdrawing its ambassador, in a move later much regretted, on February 10, 1964.²⁶

But like Chiang Kai-shek or the Federal Republic of Germany before Brandt, the PRC is simply incapable of pronouncing the words that would open the door to a solution by establishing a status for Taipei from which progress could be made. As with Bonn before Brandt, this unwillingness seems to be in part a matter of pride and habit, as well as the result of domestic political pressure, mixed with a sense that if only the rival can be isolated enough then perhaps it will somehow disappear or cave in. Other states of the world, the United States included, follow that usage, which sustains the illusion.

This short-sighted PRC (and U.S.) policy is particularly inappropriate today, at a time when Taiwan is changing rapidly. Time does not favor Beijing, and if a settlement is not reached soon, Taiwan's development may diverge so much from China's as to make reunification close to impossible. Democracy challenges the anti-democratic regime in Beijing; so too does the growing sense of Taiwan's identity. If the world could accord to the residents of Taiwan a functional Chinese identity (i.e. one that would permit them to be themselves, and not come under PRC rule, but would nevertheless affirm their Chineseness) then much of the steam would be taken out of moves for Taiwan independence. The same would be true if the PRC could agree to some sort of loose federal or "greater China" political framework. Many in the PRC understand that these steps will have to be taken sooner or later. Recently the PRC State Council's Taiwan Affairs Office explored federal solutions to the problem, far more forthcoming than anything in the current political rhetoric.²⁷ But Jiang Zemin later specifically ruled out such an approach in talks with Shen Junshan, the president of (Taiwan) Ch'ing-hua University.²⁸

Without some such functional solution, Taiwan will continue to

seek a way out on its own, a process that is already destabilizing the precarious arrangements of the 1970s. Some policy specialists seem to imagine that process can be stopped somehow, but that is unrealistic. People in Taiwan have resources and acumen, and they understand that no less than their continued peaceful and free survival is at stake. The challenge is to find a middle way; a functional status that will work, and thus genuinely “normalize” the situation. Hewing close to Beijing’s line will not help, for the fact is that PRC’s current policy, acquiesced in by the United States and most of the world, is pushing Taiwan in the direction of independence. Faced with a threatening PRC that is increasingly unwilling to talk; disillusioned with “Chinese” identity if it means PRC citizenship, and finding international doors closed to them, the people of Taiwan are reacting the way numerous others have in the past—by turning to nationalism. Polling data still show Taiwan independence a less than preferred option, but in a recent period, it did get 40% approval, a new high.²⁹ If present trends continue, pro-independence forces may well win control of Taiwan’s government through a free election in the not too distant future. Their claims, moreover, will have a substantial presumption of legitimacy.

The PRC has responded to these developments with military threats designed to intimidate Taiwan, undermine the U.S. security commitment, and drive a wedge between Taipei and Washington. They have enjoyed some success, reflected in the widespread tendency to explain problems by blaming Taiwan for “provoking” Beijing. But what would Washington do if Taiwan did declare independence and the PRC then attempted a military operation? Try to visualize the scenario as it unfolds: there would have been an election campaign visible all over the world and covered at least as thoroughly as that in 1996; there would have been bellicose PRC statements and threats; a tense night as the returns came in, then tears and celebration and a dramatic shift in Taiwan’s proclaimed identity. What would follow next? Missile deployments and an ultimatum? The world would do everything to buy time, by creating a commission of some sort, or negotiations—none of which would produce the clean resolution desired. Would there actually be conflict and disorder, possibly propagating and escalating? Beijing would apply ugly pressure on Washington to stand aside, but in fact it would be difficult for any American administration to declare

that Taiwan's elected government was wrong and Beijing's dictatorship held the moral high ground—even if we had spoken out strongly against independence; even if we had tried to influence the election (as we did recently in Israel). We have here the makings of a crisis that would dwarf that of March 1996.

This is a problem in whose solution the United States and the world should have a role. The weak political leadership in Beijing is simply incapable, at least for now, of doing what has to be done. But that is no reason for us to postpone dealing with the issue, which is real and highly volatile.

The Current Situation

The basic issues of U.S. policy toward the PRC and Taiwan in the years ahead are political and diplomatic, but whatever we do will require a credible military posture as well. The March 1996 confrontation revealed glaring weaknesses in U.S. capabilities and plans. These began with intelligence. The United States failed to detect or take seriously the threat until it was upon us; this despite a whole series of telling indications in the previous year. As the crisis developed, the gaps in our knowledge of and ability to monitor both PRC and Taiwan forces became clear as well. Finally, there was a lack of operational plans. Taiwan and the United States had a certain amount of informal contact, but questions such as communications and joint operations had simply not been addressed. The March crisis galvanized American thinking about all these issues.

The crisis also energized Taiwan, where problems of demoralization and complacency had been undermining the readiness of forces. The same sorts of illusions about an all-economic conflict-free future that had been accepted in Washington had also made headway in Taiwan. The mainlander-dominated military was resented by opposition political parties, and scandals attended many major foreign arms purchases. But now a broad consensus is beginning to emerge in favor of a formidable national defense. As popular identification with the state increases, more and more of Taiwan's abundant technical expertise is likely to be turned to the issues of defense: witness here the powerful DPP concern with security. A 10-year program is already in

place to improve training and to rationalize the structure of the military. Recently a major shakeup of command brought new officers to 10 high ranking positions, among them Lt. Gen. Tan Yau-ming, the first-ever Taiwan-born commander-in-chief of the Taiwan army.³⁰

In fact, Taiwan is rather secure today against the standard scenario of an attempted cross-strait invasion. Some PRC observers see the military gap opening rather than closing.³¹ Taiwan's navy is being transformed by the acquisition of new craft, including the French Lafayette-class frigates; the window of vulnerability of her air force is being closed by deliveries of the Mirage 2000 and the F-16. So far pressure from the PRC has picked off, one by one, each country that has considered supplying submarines to Taiwan, creating a weakness. But with all the new hardware being supplied, the biggest challenges that Taiwan faces in conventional military operations are in personnel and logistics. Where will the highly-skilled manpower come from that is necessary for this equipment? And how will the several distinct logistical trains for the new U.S. and French systems be maintained?

Nevertheless, Taiwan lacks the power to deter on its own; that job must still be done by the United States. The carriers did it in 1996, but only for the short run. The political problem remains, for there has been no return, on the PRC side to the communique policy of not threatening Taiwan. Quite the opposite: the PRC now seems to be preparing to deploy as many as 100 Su27 aircraft at two fortified airfields within 250 nautical miles of Taiwan.³² Rather than reassuring Taiwan and the United States, the PRC seems to have decided to entrench the threat. Coping with such conventional developments will require a higher level of U.S.-Taiwan military cooperation than we have seen over the past two decades. We should bring Taiwan into theater missile defense consultations, and ensure that we supply them with weapons that can realistically deal with PRC threats short of the strategic.

Only the United States, though, has the reconnaissance and intelligence capability to pick up PRC deployments or missile launches deep inland. Only the United States has the capacity, through stealth and RMA capabilities, to counter a massive conventional attack. Only the United States can counter a blockade of Taiwan. Only the United States may be able to deal with ballistic missiles. These are scarcely the

sorts of military questions that the United States has been considering in connection with Taiwan for the past 20 years, but until the PRC makes some clear and binding renunciation of force, we will have to assess them.

Deterrence should not be a matter of waiting for an emergency and then sending in carriers or stealth aircraft or even threatening nuclear strikes. The fundamental problem with Taiwan is not its military capability but rather the lack of the rest of the framework that usually accompanies it. The best deterrence is that which is incorporated into the daily structures of activity, as, for example, in the relations of the United States with its NATO allies. Constructing such a relationship with Taiwan today is made difficult by the pretense of non-officiality. Oddly, we have a military policy for Taiwan, but not a political policy. Still, a great deal is possible even within the current framework.

It is important that Taiwan be brought, in whatever way, into international security discussions. Again, the obstacles are formidable. At the insistence of the PRC, the Regional Forum of ASEAN (which has 21 members including India and Burma) excludes Taiwan—even from its unofficial parallel meetings. As Michael Liefer of the London School of Economics observes, this means that the ARF goal of building an effective multilateral security mechanism “faces the same order of difficulty as the biblical Hebrew slaves in Egypt who were obliged to make bricks without straw.”³³

The obvious answer to these problems is to bring Taiwan back into the international system but within a framework of Chineseness. As the example of Brandt’s *Ostpolitik* discussed above makes clear, doing this need not jeopardize eventual Chinese unification. It might even bring it closer.

Certainly bringing Taiwan back into the world as a “China” is the best structural guarantee for the PRC against independence, as many in the PRC understand. Beijing believes that military threats are the only way to prevent independence, but recognizes that the sort of military Taiwan is now creating will actually be so strong as to make independence militarily plausible. This leads to talk of preemptive attack.³⁴

One goal of American diplomacy should be to persuade Beijing that the best way to *bao Tái* [protect Taiwan—i.e. as part of China] is not through military threats, which are counterproductive, but rather by

bringing Taipei back into the world within a greater-China framework. Such cross-recognition—"baptism of the *status quo*" in effect—would naturally be called "unification" and it would provide enormous political payoffs to whoever in the PRC brought it about.

Obviously the great powers should take the lead—if only in private—in urging this approach. Unfortunately that is not happening. It is falling to states of the second and third rank, from Africa and Central America, to state certain obvious facts—such as that everyone, the PRC included, would be better off if Taipei could "participate" in the UN.

The problem is that Beijing still has not abandoned its belief that somehow the rest of the world will solve their problem for them. Recent activity has sought to render Taiwan's isolation even more complete. Thus Beijing recently protested at the participation of European Industrial Affairs Commissioner Martin Bangemann in a roundtable with European industrialists held in Taipei on June 24 and 25, 1996, causing him to cancel an upcoming visit to the PRC. "It was just a meeting of business leaders and there's no ban on European economic and cultural contacts with Taiwan" an official in Brussels commented.³⁵

U.S. diplomacy since the March crisis may have provided unwitting encouragement, for instead of beginning to explain to the PRC that some sort of change is unavoidable, Washington has attempted to soothe Beijing by appearing to cooperate with the renewed *lianMei zhiTai* policy—by means of assurances on UN membership, arms sales, official visits, and so forth. This may buy calm in the short term, but it pays an opportunity cost.

The Way Forward

As in the 1970s, modifying U.S. China policy to fit realities will not be easy. No obvious counterpart exists today for the Soviet threat, which then played the crucial role of persuading Beijing to change course. Dangers exist to China in the current situation, chiefly, the fact that postponing the inevitable negotiations with Taiwan guarantees that the eventual bargain will be more difficult and probably less favorable to the PRC. Another danger arises from how the military threats against Taiwan poison other PRC interests. But these are currently not enough to offset the powerful domestic political interests served by a hard-line foreign policy.

American policy must recognize that “peaceful unification” is a mirage, *absent a major political initiative from Beijing* (in which case, by baptizing the *status quo*, it could be achieved very easily). The current situation, moreover, is not stable: Taiwan is a rapidly maturing democracy and an important international player, while the PRC is itself entering a period of volatility. But PRC policy toward Taiwan, mirrored by the United States and other major powers, is worsening the objective situation, while the continued tendency to follow the map of 1970s expectations down the road to “unification” is in fact taking us ever farther from a real solution.

The PRC is reacting to these developments in a counterproductive way: threatening and humiliating Taiwan builds the constituency for full independence; insisting on the Chiang Kai-shek policy of absolute denial and non-recognition cripples those in Taiwan who want compromise. It is important that the United States not become an unwitting accomplice in this process (as it was to Chiang’s in the 1950s and 1960s).

With this in mind, we must first recognize our own strengths. Beijing *needs* good relations with Washington; any real deterioration would hurt them far more than us. We are, furthermore, a mighty military power and likely to remain so. Our policy then should be one of *candor* and *firmness* with the PRC, designed both to *integrate* the PRC into the world system and to *deter* any military adventures. We must insist on maintenance of the full communiqués’ bargain even as we begin to look beyond it.

For example: at a time when the PRC is testing military rather than peaceful means to deal with Taiwan, it makes no sense for us to reaffirm the August 1982 communiqué or give assurances that arms sales to Taiwan will be curtailed. Rather, we should tell Beijing authoritatively that military preparations in the Taiwan area will unravel the whole PRC-U.S. relationship and that the use of force will continue to elicit a strong American response. That, after all, was the deal in the 1970s.

But we must also attempt to map constructive ways to move the PRC out of its Taiwan dilemma. We may not hear them agree much with arguments for compromise and peaceful settlement, but we can at least articulate those views, knowing that many Chinese share them (but dare not speak), while we await the sorts of political changes in China that may make them acceptable.

As we do this, the PRC will attempt to develop leverage—for example by lobbying American interests in China, by using economic “baits” to lure other countries, and by engaging in nuclear and missile proliferation. More often than not, these tactics have some success, which underlines the importance for Washington of *coordinating policy with allies and friends*. Much more effort should be devoted to consultations with European states, Russia, and other Asian states regarding the real future of China and Taiwan in the region.

Some will suggest that realistically the best answer is to return to the implicit 1970s road map, and “make” Taiwan come to terms, perhaps by some tough talking combined with threats (for example to withhold military supplies). All that can be said on this is that such an approach is not viable politically: the whole premise of Chinese relations is that Taiwan is *not* to suffer, and this is spelled out in an awful lot of communiqués and official statements. Nor will it enhance our general reputation as an ally. Furthermore, such an approach probably would not work. The example of American attempts to coerce Israel (which, like Taiwan, has its own agenda) by withholding arms sales should always be kept in mind. Far better is a steady, predictable, and reliable relationship.

The moment is not ripe to push Beijing too hard on the need for realism in connection with Taiwan; Jiang Zemin and his colleagues have their hands full at home, and will need several years to try to straighten out their political system (and even then they probably will not be able to do so). We should begin to explain to the PRC that the current situation cannot endure indefinitely; that although friendship with China is favored by almost all Americans, no constituency exists for mistreating Taiwan; that a policy of bringing Taiwan back in to the international community serves Beijing’s interests better than their current policies do, and so forth.

There is still time for the PRC to reverse course and begin its own *Ostpolitik* across the Strait toward Taiwan. Of course the United States cannot cause this to happen, and we must prepare for the unpleasant prospects if China does not. But we will make a beginning if it we cease to pretend the problems do not exist.

Notes

1. Kenneth T. Young, *Diplomacy and Power in Washington-Peking Dealings: 1953-1967* (Chicago, 1967), pp. 19-21; cited in Arthur Waldron, "From Nonexistent to Almost Normal: U.S.-China Relations in the 1960s" in *The Diplomacy of the Crucial Decade: American Foreign Relations in the 1960s* ed. Diane B. Kunz (New York: Columbia University Press, 1994), pp. 219-250 at p. 231.
2. Note, however, that a distinguished report on "America's National Interests" contrasted the circumstances in the past when the United States affirmed its "one China policy" with those existing today. "On all those occasions, Washington acknowledged China's ultimate claim to sovereignty over Taiwan. Today, however, the weight of the argument for acknowledging the reality of Taiwan's importance as a member of the international system is nearly overwhelming. Handling this issue will require much more skill in both Washington and Beijing than either has demonstrated so far in the mid-1990s." The Commission on America's National Interests, *America's National Interests* (Cambridge, Mass: Center for Science and International Affairs, Kennedy School of Government, 1996), p. 30.
3. See Hungdah Chiu and Karen Murphy, eds. *The Chinese Connection and Normalization* (Baltimore: School of Law, University of Maryland, 1979).
4. William B. Bader and Jeffrey T. Bergner, eds. *The Taiwan Relations Act: A Decade of Implementation* (Indianapolis: Hudson Institute and SRI International, 1989), p. 159.
5. "Xingcheng chaodangpai liangan guanxi gongshi," *Ziyou shibao* (Taipei) June 23, 1996. Ruan Ming is a PRC intellectual, formerly on the staff of the Communist Party Central Party Academy, and since 1989 resident in the United States. He is author of *Deng's Empire* and other books.
6. Henry Kissinger, *White House Years* (Boston: Little, Brown, 1979), p. 733. Emphasis added.
7. Marshall Green, John H. Holdridge, William N. Stokes, *War and Peace With China: First-Hand Experiences in the Foreign Service of the United States* (Bethesda, Md.: Dacor-Bacon House, 1995), pp. 117-118, cf. Henry Kissinger, *White House Years* (Boston: Little, Brown and Co., 1979), p. 749 where he records, accurately enough, that Taiwan was "mentioned only briefly during the first session." Holdridge believes that without Kissinger's assurances, the talks would have been called off. Kissinger thought of himself as a practitioner of *realpolitik*, and I suspect he saw his Chinese interlocutors as the same, missing the strong domestic agenda that (along with concern about the USSR) drove their approach to the United States.

8. Bader and Bergner. *The Taiwan Relations Act*, p. 159.
9. Author's personal information. In a recent Washington lecture, Senator Jesse Helms noted "at that time, most countries of the world ignored Taiwan. And, like some in the United States, these same people assumed it was only a matter of time before the Communists on the mainland consumed tiny Taiwan." Senator Jesse Helms, "Entering the Pacific Century" The B.C. Lee Lectures (Washington, D.C. The Heritage Foundation, 1996), p. 6.
10. Ruan Ming, "Taiwan ruhe huiying Zhonggong lianMei zhiTai?" *Ziyou Shibao* (Taipei) July 27, 1996, p. 8.
11. Bader and Bergner, p. 182.
12. *International Herald Tribune*, July 6-7, p. 4.
13. Ian Buruma, "China's New Nationalists" *Foreign Affairs* 75.4 (July/August 1996), p. 85.
14. Bader and Bergner, p. 167.
15. That this is a change is clear from the fact of the Singapore and other talks, for if Beijing had insisted then on "one China equals PRC" Taiwan would never have agreed to participate. The compromise was "one China" with each side providing its own explanation of what that meant.
16. *International Herald Tribune*, August 2, 1995, pp. 1, 6.
17. See Arthur Waldron, "Deterring China" *Commentary* 100.4(October 1996), pp. 17-21.
18. *World Journal*, August 13, 1995, p. A1.
19. "As China Threatens Taiwan, It Makes Sure U.S. Listens" by Patrick E. Tyler. *New York Times*, January 24, 1996, p. A3.
20. Sun Zi, I.6
21. See Bob Livingston, "Enough Smoke and Mirrors" *Wall Street Journal*, July 27, 1996, p. A12.
22. "Chinese Military Expert Says U.S. Arms Sale to Taiwan Will Force Mainland to Attack Taiwan" *Ming Pao* (HK) June 27, 1996, p. A10. FBIS-CHI-96-126 28 June 1996, p. 12.
23. "Lee says a strong military can help deter mainland," *Free China Journal*, July 12, 1996, p. 2.
24. A good treatment is Timothy Garton Ash, *In Europe's Name: Germany and the Divided Continent* (New York: Random House, 1993).
25. Willy Brandt, *My Life in Politics* (Viking Penguin, 1992), p. 157.
26. *New York Times*, January 18, 1964, p. 1; Da Jen Liu, *A History of Sino-*

American Diplomatic Relations, 1840-1974 (Taipei, 1978), p. 389.

27. "Party considers federal option to accommodate Taiwan" by Willy Wo-Lap Lam. *South China Morning Post International Weekly*, May 25, 1996, p. 1.
28. *World Journal*, August 1, 1996, p. 1.
29. *Far Eastern Economic Review*, July 11, 1996, p. 24.
30. "Lee approves shakeup in military" by Virginia Sheng. *Free China Journal*, June 28, 1996, p. 2.
31. "Chinese Military Expert Says U.S. Arms Sale to Taiwan Will Force Mainland to Attack Taiwan," cited above.
32. At Jiancheng in Fujian (110 nm inland) and at Luqiao in Zhejiang (on the coast); large scale construction of revetments [*jibao*] to hold between 70-100 Su27. *World Journal*, July 3, 1996, p. A4.
33. "Pacific Nations to Sound a New Tone" by Michael Richardson. *International Herald Tribune*, July 23, 1996, p. 4.
34. "Chinese Military Expert Says U.S. Arms Sale to Taiwan Will Force Mainland to Attack Taiwan," cited above.
35. *Far Eastern Economic Review*, July 11, 1996, p. 12.

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